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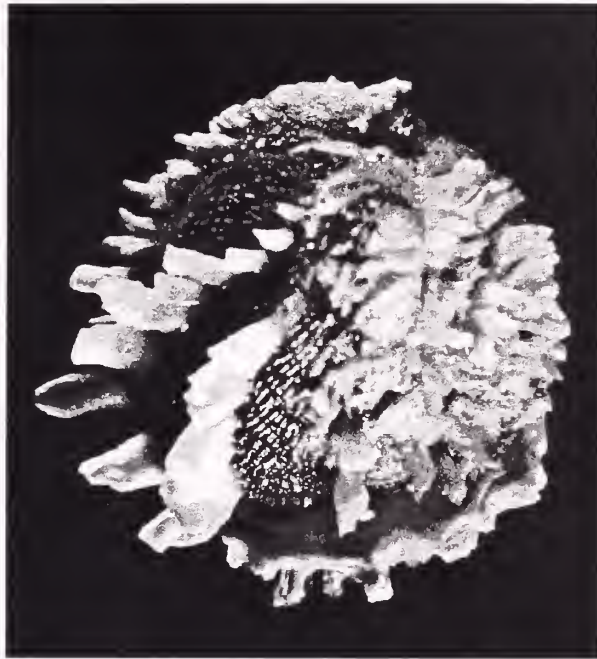
Additions
and Changes
From 1971
through 2000

I Bivalvia

II Polyplacophora

Carol Skoglund





Panamic Province Molluscan Literature

Additions and Changes
From 1971 through 2000

I Bivalvia

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PANAMIC PROVINCE MOLLUSCAN LITERATURE - ADDITIONS AND CHANGES FROM 1971 THROUGH 2000

I. BIVALVIA

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A great many changes have occurred in the literature of the Bivalvia of the Panamic Province since A. Myra Keen's mammoth *Sea Shells of Tropical West America* in 1971. New species have been named, taxonomic relationships redefined, and geographic distributions better understood. This paper consolidates the information so that references for each species can be easily found. It is a revision of Skoglund (1991d).

Earlier papers in this series cover the Polyplacophora (Skoglund, 1989), Opisthobranchia (Skoglund, 1991a) and Gastropoda (Skoglund, 1992b).

This work, based on Keen (1971), places the northern limit of the Panamic Province at Bahía Magdalena, Baja California, México (25°N). Three recent works have suggested other northern limits. Bernard, McKinnell & Jamieson (1991) and Geiger (1999) use the more southern point of Cabo San Lucas, Baja California Sur (22.9° N), while Coan, Valentich Scott & Bernard use the more northern Isla Cedros (28.2° N) as the northern cutoff point for the Province. Keen (1958) also used Isla Cedros, and it might well be the most reasonable choice, but the information herein uses Bahía Magdalena. All authors above were in agreement that the southern boundary of the Province should be set at 6°S in Perú.

There are many references to "Baja California," México, in the literature of the Province. The correct names of the two political divisions of the peninsula are Baja California, the state north of the 28th parallel, and Baja California Sur, the state south of the 28th parallel. Previously published references to Baja California Norte are listed herein as Baja California.

Suprageneric taxa have been rearranged by several workers since 1971, including Waller (1978), Yonge &

Morton (1980), Morton (1981), Boss (1982), Allen & Hannah (1986), Maxwell (1988) and Vaught (1989). The arrangement herein follows Coan, Valentich Scott & Bernard, 2000, where possible. Numbers from Keen are used when available, but may no longer be in numerical order because some changes are unavoidable. When they are used within the text they are in brackets.

Only those species with changes since 1971 are included. Species are listed alphabetically within a genus. Taxa that differ from those given in Keen (1971) are in bold type. Authors and publication dates are given only for those higher taxa in bold type. Synonyms are listed as published by each author, with the exception that those shown in Keen are not repeated. Where authors disagree, both versions are shown in chronological order. Where authors disagree the reader is encouraged to look at the papers in the Literature Cited and make his/her own decision as to which version to use.

Most distributional records have been included, but be aware of the possibility of errors in shell identifications.

Many of the taxonomic changes in the Panamic Province literature are a result of Frank R. Bernard's 1983 work on the bivalves of the eastern Pacific Ocean. Some of his citations, however, have not been used because he overlooked significant earlier papers. Bernard's distributions were given only by approximate latitudes, such as 28°N-45°N. Because the northern boundary of the Panamic Province is considered to be Bahía Magdalena (about 25°N) on the west coast of Baja California Sur, and 31°N at the head of the Golfo de California (Table 1), a record of 28°N could be either within the Golfo de California and therefore part of the Panamic fauna, or on the west side of Baja California and

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outside of the Province; some ambiguous Bernard distributions have not been included.

A special effort has been made to include records of occurrence in the major offshore islands, including the Islas Revillagigedo, México; L'île Clipperton [France]; Isla del Coco, Costa Rica; Isla de Malpelo, Colombia; and the Islas Galápagos, Ecuador.

I thank those who have contributed to this paper: Eugene V. Coan, Jules & Carole M. Hertz, Kirstie L.

Kaiser and Paul Valentich Scott called citations to my attention. A special thanks to Eugene Coan who critically read the manuscript and offered many valuable suggestions and is the coauthor of the Corbulidae section. Carole and Jules Hertz offered moral support, help in obtaining necessary papers and hours of proofreading. Stan Skoglund created a computer program for the index. Suzanne Parlett designed the cover and title page.

TABLE 1. APPROXIMATE LATITUDES OF MAJOR TEXT SITES IN BERNARD, 1983

Baja California		Mexican Mainland to Perú	
<u>West Coast</u>	<u>East Coast</u>	Latitude	
Ensenada		32°N	
	San Felipe	31°N	Puerto Peñasco, Sonora, México
	Bahía de los Angeles	29°N	Bahía Kino, Sonora, México
Isla Cedros		28°N	
		28°N	Bahía San Carlos, Sonora, México
		28°N	Guaymas, Sonora, México
	Bahía Santa Inez	27°N	
Bahía Magdalena		25°N	
	Bahía La Paz	24°N	
Cabo San Lucas		23°N	Mazatlán, Sinaloa, México
		20°N	Bahía Chamela, Jalisco, México
		17°N	Acapulco, Guerrero, México
		15°N	Golfo de Tehuantepec, México
		11°N	San Juan del Sur, Nicaragua
		10°N	L'île Clipperton [France]
		10°N	Nicoya, Costa Rica
		9°N	Kobbe Beach, Panamá
		6°N	Isla del Coco, Costa Rica
		5°N	Bahía Cueva, Colombia
		0°	Islas Galápagos, Ecuador
		2°S	Santa Elena, Ecuador
		6°S	Punta Aguja, Perú

Class BIVALVIA

Subclass **PROTOBRANCHIA**

Pelseneer, 1889

Order SOLEMYOIDA

Superfamily **SOLEMYOIDEA**

J. E. Gray, 1840

Family SOLEMYIDAE

Synonym: Family Acharacidae Scarlato & Starobogatov, 1979 (Coan, Valentich Scott & Bernard, 2000).

Genus *Solemya* Lamarck, 1818Subgenus *Petrasma* Dall, 1908

- 2 *Solemya* (P.) *panamensis* Dall, 1908. Shell interior figured showing that prop supporting "chondrophore" is anterior to posterior adductor scar (Gemmell, Myers & Hertz, 1979). Distribution: Oaxaca, México, to Panamá. More northern records are of other species (Bernard, 1980). Extend distribution south to off Lobos de Afuera, Perú (Valdivieso, 1984). Length: 47.3 mm (Draper, 1987).
- 3 *Solemya* (P.) *valvulus* Carpenter, 1864. Extend distribution to San Felipe, Baja California, México. Shell interior figured (Gemmell, Myers & Hertz, 1979). Distribution: 21°N-33°N. Depth: 2-400 m (Bernard, 1983a). Distribution: Monterey, California, to Bahía de Banderas, Jalisco, México, and including the Golfo de California (Coan, Valentich Scott & Bernard, 2000).

Subgenus *Acharax* Dall, 1908

- 1 *Solemya* (A.) *johnsoni* Dall, 1891. Delete here. Genus changed. See *Acharax johnsoni* (Dall, 1891) [1].

Genus *Acharax* Dall, 1908

Raised from subgenus (Bernard, 1983a; Allen & Hannah, 1986).

- 1 *Acharax johnsoni* (Dall, 1891). Add synonyms: *Solemya tokunagai* Yokoyama, 1925; *S. (Acharax) tibai* Kuroda, 1948 (Bernard, 1983a). Extend distribution south to Isla de la Plata, Ecuador (Shasky, 1984). Add synonym: *Solemya tokunagai elongata* Aoki, 1954. Distribution: Sitka, Alaska, to the Golfo de California, México, and to near Isla de Afuera, Perú; off Mys Olyutorsky, western

Pacific. Depth: 400 to 4100 m (Coan, Valentich Scott & Bernard, 2000).

Suborder **NUCINELLINA**

Scarlato & Starobogatov, 1971

Delete suborder (Coan & Scott, 1997; Coan, Valentich Scott & Bernard, 2000).

Superfamily **MANZANELLOIDEA**

Chronic, 1952

Synonym: Nucinelloidea Vokes, 1956 (Coan, Valentich Scott & Bernard, 2000).

Family **MANZANELLIDAE**

Chronic, 1952

Synonym: Nucinellidae Vokes, 1956 (Coan, Valentich Scott & Bernard, 2000).

Genus *Huxleyia* A. Adams, 1860

As a subgenus (Allen & Hannah, 1986) and as a genus (Coan & Scott, 1997).

- 65 *Huxleyia munita* (Dall, 1898). Delete. Distribution (33°N-45°N) is north of the Panamic Province (Bernard, 1983a).

Genus *Nucinella* Wood, 1851

- 64 *Nucinella subdola* (Strong & Hertlein, 1937). As family Manzanellidae (Abbott, 1974). As family Nucinellidae (Bernard, 1983a). Include off Bahía San Carlos, Sonora, México, in distribution. Depth: 35 m (F. & L. Poorman, 1988).

Order **NUCULOIDA**Superfamily **NUCULOIDEA**Family **NUCULIDAE**Subfamily **NUCULINAE** Gray, 1824

Additional characters needed to separate into subfamilies (Coan, Valentich Scott & Bernard, 2000). Delete subfamily (Coan, Valentich Scott & Bernard, 2000).

Genus *Nucula* Lamarck, 1799

Lamellinucula Schenck, 1944, as a synonym of *Nucula* by Allen & Hannah (1986) and as a subgenus of *Nucula* by Maxwell (1988).

Subgenus *Nucula* s. s.

- 4 *Nucula* (N.) *declivis* Hinds, 1843. Include the San Felipe area, Baja California, México, in distribution (DuShane & Brennan, 1969). Extend distribution

south to the Golfo de Guayaquil, Ecuador. Depth: 18 to 80 m (Cruz-P., 1983). Include off Bahía San Carlos, Sonora, México, in distribution. Depth: 35 m (F. & L. Poorman, 1988).

- 5 *Nucula (N.) exigua* Sowerby, 1833. Delete here. Subgenus changed. See *Nucula (Lamellinucula) exigua* Sowerby, 1833.
- *Nucula (N.) grayi* d'Orbigny, 1846. Distribution confirmed from off Caleta Mero, Perú (3°51.3'S) to southwest of San Nicolás, Perú (15°11.8'S). Depth: 800 to 1074 m (Valdivieso, 1984).
- 6 *Nucula (N.) iphigenia* Dall, 1908. Synonym: *Nucula iphigenia azulensis* Olsson, 1942 (Bernard, 1983a).
- 7 *Nucula (N.) paytensis* (A. Adams, 1856). Delete here. Subgenus changed. See *Nucula (Lamellinucula) paytensis* (A. Adams, 1856).
- 12 *Nucula (N.) profundorum* E. A. Smith, 1885. As *Pronucula (N.) chrysocoma* Dall, 1908 (Knudsen, 1970). As *Nucula chrysocome*. Change ending from *chrysocome* to *chrysocoma* (Keen & Coan, 1975). Add subgenus. Distribution: 7°S-45°N (Bernard, 1983a). As *N. profundorum*. Synonyms: *Nucula chrysocoma* [12]; *N. darella* Dall, 1916. Distribution: Oregon to Acapulco, México, south to the Islas Galápagos and Perú and in mid-north Atlantic (Coan, Valentich Scott & Bernard, 2000).
- 8 *Nucula (N.) schencki* Hertlein & Strong, 1970. Extend distribution across the Golfo de California to Cabo Tepoca, Sonora, México (Skoglund, 1974). Extend distribution south to Golfo Dulce, Costa Rica (Nichols-Driscoll, 1976).
- 15 *Nucula (N.) taeniolata* Dall, 1908. Add subgenus (Bernard, 1983a).

Subgenus *Ennucula* Iredale, 1931

- 9 *Nucula (E.) colombiana* Dall, 1908. Delete here. Genus changed. See *Ennucula colombiana* (Dall, 1908).
- 10 *Nucula (E.) linki* Dall, 1916. Delete here. Genus changed. See *Ennucula linki* (Dall, 1916).

Subgenus *Lamellinucula* Schenck, 1944

As a synonym of *Nucula* by Allen & Hannah (1986), and as a subgenus (Maxwell, 1988).

- *Nucula (L.) carlottensis* Dall, 1897. As subgenus *Lamellinucula* by Bernard (1983a). Synonym: *Nucula darella* Dall, 1916. Distribution: Alaska to

Cabo San Lucas, Baja California Sur, México. Depth: 1500 to 2600 m (Bernard, 1983b). Extend distribution south to central México. Depth as little as 100 m (Coan & Scott, 1997). Synonyms: *Nucula (L.) keenae* Bernard, 1983; *N. (L.) takashii* Bernard, 1983. Delete *Nucula darella* Dall, 1916, as a synonym. Distribution: off Queen Charlotte Islands, British Columbia, Canada, to Acapulco, Guerrero, México. Depth: 104 to 2000 m (Valentich Scott, 1998).

- 5 *Nucula (L.) exigua* (Sowerby, 1833). Synonym: *Nucula suprastrata* Arnold, 1903 (Hertlein & Grant, 1972). Subgenus changed from *Nucula* (Bernard, 1983a). Distribution to 9°16.9'S confirmed (Valdivieso, 1984). Include the Islas Galápagos, Ecuador, in distribution (Bernard, McKinnell & Jamieson, 1991). Extend distribution north to San Pedro, California (Coan, Valentich Scott & Bernard, 2000).
- 7 *Nucula (L.) paytensis* (A. Adams, 1856). Extend distribution north to Esmeraldas Province, Ecuador. Depth: 51 m (Cruz-P., 1977). Subgenus changed from *Nucula* (Bernard, 1983a). Extend distribution to south of Punta Pescadores, Perú (16°25.1'S) (Valdivieso, 1984).

Genus *Acila* H. & A. Adams, 1858

Subgenus *Truncacila* Grant & Gale, 1931

- *Acila (T.) castrensis* (Hinds, 1834). Synonyms: *Nucula lyalli* W. Baird, 1863; *Acila empirensis* Howe, 1922; *A. (Truncacila) beringiana* Slodkevich, 1967. Length to 20 mm. Distribution: Kamchatka; Craig, Alaska, to Las Cruces, Baja California Sur, México. Depth: 5-400 m (Valentich Scott, 1998). Add synonym: *Nucula divaricata* Valenciennes, 1846, *non* Hinds, 1843, *non* Conrad, 1848. Distribution: off Kamchatka; northeastern Bering Sea, Alaska, to Punta San Pablo, Baja California Sur, and Las Cruces in the Golfo de California, México (Coan, Valentich Scott & Bernard, 2000).

Genus *Ennucula* Iredale, 1931

Raised from subgenus (Woodring, 1973). As *Nuculoma* Cossmann, 1907, with *Leionucula* Thiele, 1934, and *Ennucula* Iredale, 1931, as synonyms (Allen & Hannah, 1986). Maxwell (1988) places *Ennucula* in the subfamily Nuculominae Maxwell, 1988, and regards

Nuculoma for fossil species only with *Ennucula* as the genus for extant species. Subfamily Nuculominae not used (Coan & Scott, 1997).

- *Ennucula cardara* (Dall, 1916). Distribution: 23°N-48°N (Bernard, 1983a). Synonym: *Leda phenaxia* Dall, 1916. Holotype figured. Length: 12 mm. Distribution: Cape Flattery, Washington, to Cabo San Lucas, Baja California Sur, México. Depth: 590 to 2600 m (Valentich Scott, 1998). Add synonyms: *Nucula panamina* Dall *auctt., non* Dall, 1908; *N.(Leionucula) yaquinae* Bernard, 1983. Holotype figured. Length: 16 mm (Coan, Valentich Scott & Bernard, 2000).
- 9 *Ennucula colombiana* (Dall, 1908). As subgenus *Leionucula*. Chilean specimens should be assigned to a new species and *N. colombiana* reserved for shallow water tropical representatives (Bernard, 1983a). Include the Golfo de Guayaquil, Ecuador, in distribution (Cruz-P., 1983). Drawings of holotype. Length: 6 mm. Depth: 11 to 25 m. Extend distribution north to San Felipe, Baja California, and to Guaymas, Sonora, México (Gemmell, Myers & Hertz, 1987). Include off Bahía San Carlos, Sonora, México, in distribution. Depth: 35 to 100 m (F. & L. Poorman, 1988). Length: 9 mm (Norrid, 2000).
- 10 *Ennucula linki* (Dall, 1916). Extend distribution to north of San Felipe, Baja California, México (DuShane & Brennan, 1969). As subgenus *Leionucula*. Distribution: 28°N-34°N (Bernard, 1983a). Distribution: Tillamook, Oregon, to central México. Confined to shallow water (Bernard, 1983b). As *E. linki*. Holotype figured. Distribution: Vancouver Island, British Columbia, to Guaymas, Sonora, México. Depth: 45 to 1800 m (Coan, Valentich Scott & Bernard, 2000).
- 13 *Ennucula panamina* (Dall, 1908). Length: 22 mm. Valve interior and hinge teeth figured. Distribution: 6°N to 31°N. Depth: 1975 to 3058 m (Knudsen, 1970). As subgenus *Leionucula* by Bernard (1983a).

Superfamily NUCULANOIDEA

Family NUCULANIDAE

Subfamily NUCULANINAE

H. & A. Adams, 1858

Genus *Nuculana* Link, 1807

Synonyms: *Costelloleda* Hertlein & Strong, 1940; *Politoleda* Hertlein & Strong, 1940; *Thestyleda*

Iredale, 1929 (Allen & Hannah, 1986).

Subgenus *Nuculana*, s. s.

- *Nuculana (N.) ambli*a (Dall, 1905). Distribution: 19°N-37°N (Bernard, 1983a). Delete. As a synonym of *Nuculana (N.) pernula* (Müller, 1779), which has a distribution north of the Panamic Province (Coan, Valentich Scott & Bernard, 2000).
- 16 *Nuculana (N.) costellata* (Sowerby, 1833). Extend distribution north to Puertecitos, Baja California, México (DuShane, 1962). Extend distribution north to Bahía San Felipe, Baja California, México (Gemmell, Hertz & Myers, 1980). Distribution: 4°N-27°N (Bernard, 1983a). Subgenus changed (Allen & Hannah, 1986). Include the Islas Galápagos, Ecuador, in distribution (Bernard, McKinnell & Jamieson, 1991).
- *Nuculana (N.) extenuata* (Dall, 1897). Synonym: *Leda loshka* Dall, 1908 [34]. Holotype figured. Distribution: Sitka, Alaska, to Panamá (Coan, Valentich Scott & Bernard, 2000).
- *Nuculana (N.) grasslei* Allen, 1993. Length: 26.3 mm. Anatomy figured. Distribution: Guaymas Basin, Golfo de California, México. Depth: 2000 m (Allen, 1993).
- 30 *Nuculana (N.) hamata* (Carpenter, 1864). Synonym: *Leda hamata limata* Dall, 1916. Depth: 35 to 550 m (Bernard, 1983a). Subgenus changed (Allen & Hannah, 1986). Distribution: Forrester Island, Alaska, to Isla Cedros, Baja California, México, but possibly as far south as Panamá. Depth: 30 to 550 m (Valentich Scott, 1998). Include the Golfo de California, México, in distribution (Coan, Valentich Scott & Bernard, 2000).
- 34 *Nuculana (N.) loshka* (Dall, 1908). As subgenus *Thestyleda* by Bernard (1983a). Subgenus changed (Allen & Hannah, 1986). Delete *N. loshka* here. As a synonym. See *Nuculana extenuata* (Dall, 1897).
- 17 *Nuculana (N.) marella* Hertlein, Hanna & Strong, 1940. Extend distribution south to the Golfo de Guayaquil, Ecuador (Cruz-P., 1983). Length: 34 mm (Draper, 1987). Subgenus changed from *Costelloleda* (Allen & Hannah, 1986). Include off Bahía San Carlos, Sonora, México, in distribution. Depth: 100 m (F. & L. Poorman, 1988).
- *Nuculana (N.) peruviana* (Dall, 1908). Distribution: 6°S (Bernard, 1983a).
- 18 *Nuculana (N.) polita* (Sowerby, 1833).

Distribution: 9°N-14°N and the Islas Galápagos, Ecuador (Bernard, 1983a). Occurrence in the Islas Galápagos doubtful (Finet, 1985). Subgenus changed from *Politoleda* (Allen & Hannah, 1986). Galápagos distribution restated (Bernard, McKinnell & Jamieson, 1991).

Subgenus *Costelloleda*

Hertlein & Strong, 1940

Delete. As a synonym. See *Nuculana*.

- 16 *Nuculana* (*C.*) *costellata* (Sowerby, 1833). Delete here. Subgenus changed. See *Nuculana* (*Nuculana*) *costellata* [16].
- 17 *Nuculana* (*C.*) *marella* Hertlein, Hanna & Strong, 1940. Delete here. Subgenus changed. See *Nuculana* (*Nuculana*) *marella* [17].

Subgenus *Jupiteria* Bellardi, 1875

As a genus (Maxwell, 1988). As a subgenus (Coan & Scott, 1997).

- 31 *Nuculana* (*J.*) *agapea* (Dall, 1908). Valve interior and hinge teeth figured. Distribution: off Golfo de California, México, to Ecuador (Knudsen, 1970). Subgenus *Jupiteria* added. Distribution: 1°N-6°N (Bernard, 1983a). Extend distribution south to off Chile (32°51'S, 72°08'W). Depth: 2580 m (Luke, 1995).
- 23 *Nuculana* (*J.*) *elenensis* G. B. Sowerby I in Broderip & G. B. Sowerby I, 1833). Extend distribution north to off San Felipe, Baja California, México (DuShane & Brennan, 1969). Subgenus changed. Extend distribution north to southern California (Coan & Scott, 1997). Add synonyms: *Leda elenensis media* Hanley, 1860; *Leda e.? pyriformis* Hanley, 1860 (Coan, Valentich Scott & Bernard, 2000).
- 28 *Nuculana* (*J.*) *penderi* (Dall & Bartsch, 1910). Synonym: *Nuculana oxia* Dall, 1916 [28] (Coan & Scott, 1997). Add synonym: *Nuculana redondoensis* J. Q. Burch, 1944. Length: 5 mm. Distribution: Sitka, Alaska, to Mazatlán, Sinaloa, México. Depth: 20 to 500 m (Coan, Valentich Scott & Bernard, 2000).
- 36 *Nuculana* (*J.*) *pontonina* (Dall, 1890). Extend distribution south to Perú (Abbott, 1974). As subgenus *Jupiteria* (Bernard, 1983a). Holotype figured. Distribution: San Diego, California, to the Golfo de Panamá and the Islas Galápagos, Ecuador.

Depth: 1150-3000 m (Valentich Scott, 1998). Length: 10 mm (Coan, Valentich Scott & Bernard, 2000).

Subgenus *Politoleda*

Hertlein & Strong, 1940

Delete. As a synonym. See *Nuculana*.

- 18 *Nuculana* (*P.*) *polita* (Sowerby, 1940). Delete here. Subgenus changed. See *Nuculana* (*Nuculana*) *polita* [18].

Subgenus *Saccella* Woodring, 1925

As a genus by Woodring (1973), a synonym of *Jupiteria* Bellardi, 1875, by Allen & Hannah (1986), a genus by Maxwell (1988), and a subgenus (Coan & Scott, 1997).

- 19 *Nuculana* (*S.*) *acrita* (Dall, 1908). As synonym *Nuculana laeviradius* (Pilsbry & Lowe, 1932). Extend distribution across the Golfo de California to off San Felipe, Baja California, México (DuShane & Brennan, 1969). Extend distribution south to Esmeraldas Province, Ecuador. Depth: 43 to 90 m (Cruz-P., 1977). Extend distribution south to the Golfo de Guayaquil, Ecuador (Cruz-P., 1983). Distribution: 1°N-31°N (Bernard, 1983a). Include off Bahía San Carlos, Sonora, México, in distribution. Depth: 30 to 100 m (F. & L. Poorman, 1988).
- 20 *Nuculana* (*S.*) *bicostata* (Sowerby, 1871). Extend distribution north to Nayarit, México (Reguero & García-Cubas, 1989).
- 21 *Nuculana* (*S.*) *callimene* (Dall, 1908). Distribution: 10°N-37°N (Bernard, 1983a).
- 22 *Nuculana* (*S.*) *eburnea* (Sowerby, 1833). Extend distribution north to near Guaymas, Sonora, México (DuShane & Poorman, 1967). Extend distribution south to Zorritos and Punta Pariñas, Perú (Alamo & Valdivieso, 1987).
- 23 *Nuculana* (*S.*) *elenensis* (Sowerby, 1833). Delete all synonyms except *Leda excavata* Hinds, 1843 (Cruz-P., 1977). Add synonyms: *Leda elenensis media* Hanley, 1860; *L. elenensis pyriformis* Hanley, 1860; *L. elenensis gibbosa* Hanley, 1860, non *Nucula gibbosa* Fleming, 1828, non Sowerby, 1833, non McChesney, 1860. Include Islas Galápagos, Ecuador, in distribution (Bernard, 1983a). Include off Bahía San Carlos, Sonora, México, in distribution. Depth: 35 to 90 m (F. & L.

- Poorman, 1988). Delete here. Subgenus changed. See *Nuculana (Jupiteria) elenensis*.
- 24 *Nuculana (S.) fastigata* Keen, 1958. As a synonym of *Nuculana gibbosa* Sowerby, 1833 (Cruz-P., 1977). Synonym: *N. gibbosa* Sowerby, 1833 (Bernard, 1983a). Length: 43 mm (Draper, 1987).
- 25 *Nuculana (S.) hindsii* (Hanley, 1860). Extend distribution into the Golfo de California to off Bahía San Carlos, Sonora, México (DuShane & Poorman, 1967). Distribution: 8°N-28°N (Bernard, 1983a). Include the Islas Galápagos, Ecuador, in distribution (Bernard, McKinnell & Jamieson, 1991). Delete *Nuculana redondoensis* as a synonym, as it becomes a synonym of *N. penderi* [28] (Coan, Valentich Scott & Bernard, 2000).
- 26 *Nuculana (S.) impar* (Pilsbry & Lowe, 1932). Extend distribution across the Golfo de California to Puertecitos, Baja California (DuShane, 1962). Extend distribution north to San Felipe, Baja California, México (DuShane & Brennan, 1969). Extend distribution south to the Golfo de Guayaquil, Ecuador (Cruz-P., 1983).
- 27 *Nuculana (S.) ornata* (d'Orbigny, 1845). Depth: 47 and 90 m (Cruz-P., 1977). Include the Golfo de Guayaquil, Ecuador, in distribution (Cruz-P., 1983). Include the Islas Galápagos, Ecuador, in distribution (Bernard, McKinnell & Jamieson, 1991).
- 28 *Nuculana (S.) oxia* (Dall, 1916). Delete here. As a synonym. See *Nuculana (J.) penderi* Dall & Bartsch, 1910 [28].
- 29 *Nuculana (S.) taphria* (Dall, 1897). Size: 19 mm (Hutsell, Hutsell & Pisor, 1997). Delete. Distribution is north of the Panamic Province (Valentich Scott, 1998).
- 37 *Adrana crenifera* (Sowerby, 1833). Synonym: *Leda arcuta* Sowerby, 1871. Distribution: 14°S-17°N (Bernard, 1983a). Include Bahía de Coronado, Costa Rica, in distribution (Cruz, 1996).
- 38 *Adrana cultrata* Keen, 1958. Extend distribution north to Mazatlán, Sinaloa, México (Hendrickx & Toledano Granados, 1994).
- 39 *Adrana exoptata* (Pilsbry & Lowe, 1932). Extend distribution south to Ecuador (Olsson, 1961). In the lower figure in Keen, 1971, the concentric sculpture should be shown more strongly as "crossing the lines of growth obliquely in the middle and posteriorly," as described by Pilsbry & Lowe (1932:107) (Keen & Coan, 1975). Extend distribution north to San Felipe, Baja California, México (Gemmell, Hertz & Myers, 1980). Distribution: 1°N-28°N (Bernard, 1983a).
- 40 *Adrana penascoensis* (Lowe, 1935). Include off Bahía San Carlos, Sonora, México, in distribution (DuShane & Poorman, 1967). Include San Felipe, Baja California, México, in distribution (Gemmell, Myers & Hertz, 1987). Extend distribution south to Laguna de Agiabampo, Sonora/Sinaloa, México (García-Cubas & Reguero, 1987). Length: 40.8 mm (Hutsell, Hutsell & Pisor, 1999).

Genus *Malletia* des Moulins, 1832

Delete here. Family changed. See Malletiidae.

Genus *Spinula* Dall, 1908

Delete here. As a synonym. See *Bathyspinula*.

- 51 *Spinula calcar* (Dall, 1908). Delete here. Genus changed. See *Bathyspinula*.

Genus *Tindaria* Bellardi, 1875

Delete here. Family changed. See Tindariidae.

- 31 *Nuculana agapea* (Dall, 1908). Delete here. Subgenus added. See *Nuculana (Jupiteria) agapea* (Dall, 1908) [31].
- 33 *Nuculana lobula* (Dall, 1908). Delete here. Genus changed. See *Nielonella*.
- 35 *Nuculana lucasana* Strong & Hertlein, 1937. Delete here. Genus changed. See *Nielonella*.
- 36 *Nuculana pontonia* (Dall, 1890). Delete here. Subgenus added. See *Nuculana (Jupiteria) pontonia* (Dall, 1890).
- 54 *Tindaria mexicana* Dall, 1908. Delete here. Genus changed. See *Neilonella*.

Genus *Yoldia* Möller, 1842

Delete here. Family changed. See Yoldiidae.

Subgenus *Katadesmia* Dall, 1908

Delete here. See genus *Katadesmia*.

- 57 *Yoldia (K.) vincula* Dall, 1908. Delete here. Genus changed. See *Katadesmia*.

Subgenus *Megayoldia* Verrill & Bush, 1897

Genus *Adrana* H. & A. Adams, 1858

Delete here. See family Yoldiidae, genus *Megayoldia*.

- 58 *Yoldia (M.) martyria* Dall, 1897. Delete here. Genus changed. See family Yoldiidae, genus *Megayoldia*.

Subgenus *Orthoyoldia* Verrill & Bush, 1897
Delete here. Genus changed. See family Yoldiidae, genus *Orthoyoldia*.

- 59 *Yoldia (O.) panamensis* Dall, 1908. Delete here. Genus changed. See family Yoldiidae, genus *Orthoyoldia*.

Subgenus *Yoldiella* Verrill & Bush, 1897
Delete here. Moved to family Yoldiidae.

- 60 *Yoldia (Y.) cecinella* Dall, 1916. Delete here. Moved to family Yoldiidae, genus *Yoldiella*.
61 *Yoldia (Y.) dicella* Dall, 1908. Delete here. Moved to family Yoldiidae, genus *Yoldiella*.
62 *Yoldia (Y.) leonilda* Dall, 1908. Delete here. Moved to family Yoldiidae, genus *Yoldiella*.
63 *Yoldia (Y.) mantana* Dall, 1908. Delete here. Moved to family Yoldiidae, genus *Yoldiella*.

Subfamily BATHYSPINULINAE

Coan & Scott, 1997

Replacement name for Spinulinae Allen & Sanders, 1982.

Genus *Bathyspinula* Filatova, 1958

Subgenus *Acutispinula*

Filatova & Schileyko, 1984

New name for *Spinula* Dall, 1908, *non* Herrich-Schaeffer, 1856 (Filatova & Schileyko, 1984).

- 51 *Bathyspinula (A.) calcar* (Dall, 1908). Synonym: *Leda (Spinula) calcarella* Dall, 1908. Depth: 4063 to 6100 m (Knudsen, 1970). Delete. No Panamic Province records. Circum-Pacific, with one central Pacific site (Bertsch & Myers, 1980). Change genus and subgenus. Anatomy figured (Filatova & Schileyko, 1984). Delete *L. calcarella* as a synonym. As *Bathyspinula (Acutispinula)* by Coan & Scott, 1997.

Subfamily LEDELLINAE

J. A. Allen 1978

Genus *Ledella* Verrill & Bush, 1897

Subgenus *Ledella s. s.*

- *Ledella (L.) fiascona* (Dall, 1916). Length: 3.5 mm. Distribution: San Diego, California, to La Paz, Baja California Sur, México. Depth: 48 to 1500 m (Coan, Valentich Scott & Bernard, 2000).
---- *Ledella (L.) ultima* (E. A. Smith, 1885). Anatomy and shell figured. Extend distribution to include the west coast of America from ca. 0° to 45°N (Filatova & Schileyko, 1984). Synonyms; *Ledella messanensis*, *auctt.*, *non* Jeffreys, 1870, *ex* Seguenza MS; *L. crassa* Knudsen, 1970; *L. bushae* Warén, 1978. Anatomy and shell figured (Allen & Hannah, 1989). Delete. Distribution is outside of the Panamic Province (Coan, Valentich Scott & Bernard, 2000).

Genus *Ledellina* Filatova & Schileyko, 1984

- *Ledellina olivacea* Filatova & Schileyko, 1984. Anatomy and shell figured. Distribution: ca. 6°S-8°S. Depth: 5300-7400 m (Filatova & Schileyko, 1984).

Family MALLETIIDAE

H. & A. Adams, 1858

Genus *Malletia* des Moulins, 1832

Synonym: *Katadesmia* Dall, 1908 (Allen & Hannah, 1986). *Katadesmia* as a valid genus. Synonyms: *Minormalletia* Dall, 1908, and others. Subgeneric names overlap (Coan, Valentich Scott & Bernard, 2000).

- 47 *Malletia arciformis* (Dall, 1908).
48 *Malletia benthima* (Dall, 1908).
---- *Malletia cuneata* Jeffreys, 1876. As subgenus *Neilo*. Synonyms: *Portlandia koltzoffi* Hägg, 1904; *Malletia pellucida* Thiele, 1912; *M. (Neilo) fiera* Dall, 1916. Length: 10.4 mm. Shell, hinge teeth and anatomy figured. Distribution: Golfo de Panamá; west Pacific; Atlantic Ocean; Indian Ocean; Antarctic Ocean. Depth: 2365 to 6156 m (Knudsen, 1970). Shell variation figured (Allen, 1978). *Portlandia koltzoffi* and *Malletia cuneata* considered as separate Atlantic species in the genus *Katadesmia* (Bouchet & Warén, 1979). *Malletia (Minormalletia) koltzoffi* is correct for the Pacific species, whereas *M. cuneata* (Jeffreys, 1876) is a

distinct Atlantic species. Distribution: 6°N-72°N, 2200-3600 m (Bernard, 1983a). As subgenus *Malletia*. Shell and anatomy figured. A cosmopolitan species of the abyss, with synonyms as listed above by Knudsen (1970) (Sanders & Allen, 1985). Delete *Malletia flora* Dall, 1916, as a synonym. Delete. Distribution is in the Atlantic (Coan, Valentich Scott & Bernard, 2000).

---- *Malletia faba* Dall, 1897. Length to 35 mm. Distribution: south of the Queen Charlotte Islands, British Columbia, Canada, to Cabo San Lucas, Baja California Sur, México. Depth: 200 to 1600 m (Coan, Valentich Scott & Bernard, 2000).

46 *Malletia truncata* Dall, 1908. Length: 17 mm. Distribution: 3°N-55°N (Bernard, 1983a). Distribution: Oregon to southwest of Isla de Malpelo, Colombia. Depth: 2700 to 4134 m (Coan, Valentich Scott & Bernard, 2000).

57 *Malletia vincula* (Dall, 1908). As genus *Katadesmia* (Bouchet & Warén, 1979). As *Malletia* (Allen & Hannah, 1986). Delete here. Genus changed. See *Katadesmia vincula*.

Genus *Katadesmia* Dall, 1908

57 *Katadesmia vincula* Dall, 1908. Genus changed from *Yoldia*. Syntype figured. Synonym: *Malletia flora* Dall, 1916. Length: 14 mm. Distribution: Sitka Alaska, to the Golfo de Panamá. Depth: 590 to 3585 m (Coan, Valentich Scott & Bernard, 2000).

Subgenus *Minormalletia* Dall, 1908

As a genus (Sanders & Allen, 1985). Delete here. As a synonym of *Malletia* (Coan, Valentich Scott & Bernard, 2000).

47 *Malletia (M.) arciformis* (Dall, 1908). Delete here. subgenus changed. See *Malletia*.

48 *Malletia (M.) benthima* (Dall, 1908). Delete here. Subgenus changed. See *Malletia*.

Family NEILONELLIDAE A. J. Allen, 1978

Genus *Neilonella* Dall, 1881

Synonym: *Saturnia* Seguenza, 1877, non Schrank, 1802 (Maxwell, 1988).

33 *Neilonella lobula* (Dall, 1908). Genus changed to *Saturnia* (Bernard, 1983a).

35 *Neilonella lucasana* (Strong & Hertlein, 1937). As genus *Saturnia* by Bernard (1983a). Extend distribution north to Bahía San Carlos, Sonora, México (F. & L. Poorman, 1988). Extend distribution south to off Teacapán, Sinaloa, México (Hendrickx & Toledano Granados, 1994).

54 *Neilonella mexicana* (Dall, 1908). Genus changed (Coan & Scott, 1997). Synonyms: *Tindaria atossa* Dall, 1908 [52]; *T. smirna* Dall, 1908 [56]; *T. cervola* Dall, 1916. Holotype figured. Length: 3 mm. Distribution: Farallon Islands, California, south to the Golfo de California, México, and Panamá. Depth: 1200 to 2550 m (Coan, Valentich Scott & Bernard, 2000).

Genus *Sarepta* A. Adams, 1860

50 *Sarepta abyssicola* E. A. Smith, 1885. Delete. Distribution is outside of the Panamic Province. Occurs in the central and south Pacific (Bernard, 1983a). As *Clencharia abyssicola* by Coan, Valentich Scott & Bernard (2000).

Family TINDARIIDAE

Verrill & Bush, 1897

Genus *Tindaria* Bellardi, 1875

Ligament external; shell ovate, thick; beaks high (Keen & Coan, 1975).

52 *Tindaria atossa* Dall, 1908. Closely related to *Tindaria smirna* Dall, 1908 [56], and may be conspecific with it (Knudsen, 1970). Delete here. As a synonym. See *Neilonella mexicana* (Dall, 1908) [54].

53 *Tindaria compressa* Dall, 1908. Length: 11.5 mm. Shell interior and hinge teeth figured. Distribution: 6°N-30°N (Knudsen, 1970). Synonym: *Tindaria panamensis* Dall, 1908 [55]. Distribution: Cape Flattery, Washington, to the Golfo de Panamá. Depth: 950 to 2850 m (Coan, Valentich Scott & Bernard, 2000).

---- *Tindaria kennerlyi* (Dall, 1897). Synonyms: *Tindaria dicofania* and *Tindaria martiniana* both Dall, 1916. Holotype figured. Length: 5 mm. Distribution: Cape Flattery, Washington, to San Diego, California, and in the Golfo of California, México. Depth: 762-2500 m (Valentich Scott, 1998). Extend distribution north to off Triangle Island, British Columbia, Canada. Depth: 457 to

- 4130 m (Coan, Valentich Scott & Bernard, 2000).
- 54 *Tindaria mexicana* Dall, 1908. Distribution: San Diego, California, to Acapulco, Guerrero, México (Abbott, 1974). Distribution: 17°N-48°N (Bernard, 1983a). Delete here. Genus changed. See *Neilonella*.
- 55 *Tindaria panamensis* Dall, 1908. Distribution: 7°N-28°N (Bernard, 1983a). Delete here. As a synonym. See *Tindaria compressa* Dall, 1908 [53].
- 56 *Tindaria smirna* Dall, 1908. Closely related to *Tindaria atossa* Dall, 1908 [52], and may be conspecific with it (Knudsen, 1970). Delete here. As a synonym. See *Neilonella mexicana* (Dall, 1908) [54].

Family **YOLDIIDAE** Habe, 1977

Subfamily **YOLDIINAE** Habe, 1977

Genus *Megayoldia* Verrill & Bush, 1897

Raised from subgenus and placed in subfamily Yoldiinae Habe, 1977 (Allen & Hannah, 1986). As subfamily Sareptinae by Coan & Scott, 1997. As family Yoldiidae (Coan, Valentich Scott & Bernard, 2000).

- 58 *Megayoldia martyria* (Dall, 1897). Delete. Distribution (45°N-60°N) is not within the Panamic Province (Bernard, 1983a). Distribution: Vancouver Island, British Columbia, Canada, to off Isla San Pedro Martir, Golfo de California, México (Coan, Valentich Scott & Bernard, 2000).

Genus *Orthoyoldia* Verrill & Bush, 1897

Raised from subgenus (Allen & Hannah, 1986).

- 59 *Orthoyoldia panamensis* (Dall, 1908). Synonym: *Yoldia* (*O.*) *quiba* Olsson, 1942 (Bernard, 1983a). Extend distribution north to off Isla Angel de la Guarda, Golfo de California, México (Luke, 1995). Shell figured in Keen (1971) as holotype is actually a lectotype (Kabat, 1996).

Subfamily **YOLDIELLINAE**

J. A. Allen & Hannah, 1986

A single genus occurs within the subfamily (Coan, Valentich Scott & Bernard, 2000).

Genus *Yoldiella* Verrill & Bush, 1897

Raised from subgenus (Bernard, 1983a; Allen & Hannah, 1986).

- 60 *Yoldiella cecinella* (Dall, 1916). Genus as *Portlandia* Mörch, 1857 (Abbott, 1974), and as *Yoldiella* by Bernard (1983). Distribution: 24°N (Bernard, 1983a).
- 61 *Yoldiella dicella* (Dall, 1908). Distribution: 17°N-45°N (Bernard, 1983a). Shell figured in Keen (1971) as "type lot" is actually a syntype (Kabat, 1996).
- 62 *Yoldiella leonilda* (Dall, 1908). The fragmented type has not been figured (Knudsen, 1970).
- 63 *Yoldiella mantana* (Dall, 1908).

Subclass **PTERIOMORPHIA**

Order **ARCOIDA**

Superfamily **ARCOIDEA**

Family **ARCIDAE**

Subfamily **ARCINAE**

Genus *Arca* Linnaeus, 1758

Subgenus *Arca*, s. s.

- 66 *Arca* (*A.*) *mutabilis* (Sowerby, 1833). Include Isla de Malpelo, Colombia, in distribution (Birkeland, Meyer, Stames & Buford, 1975). Include L'île Clipperton [France] and the Islas Galápagos, Ecuador, in distribution (Bernard, 1983a). Include Isla del Coco, Costa Rica, in distribution (Bernard, McKinnell & Jamieson, 1991).
- 67 *Arca* (*A.*) *pacifica* (Sowerby, 1833). Extend distribution north to Puertecitos, Baja California, México (DuShane, 1962). Extend distribution across the Golfo de California to the Guaymas, Sonora, México, area (DuShane & Poorman, 1967). Include the Islas Galápagos, Ecuador, in distribution (Finet, 1985). Extend distribution north to San Felipe, Baja California, México (Gemmell, Myers & Hertz, 1987). Include Isla del Coco, Costa Rica, and the Islas Revillagigedo, México, in distribution (Bernard, McKinnell & Jamieson, 1991).

Genus *Acar* Gray, 1857

Raised from subgenus (Coan, Valentich Scott & Bernard, 2000).

- 70 *Acar bailyi* (Bartsch, 1931). Include Puertecitos, Baja California, México, in distribution (DuShane, 1962). Length: 9 mm. Distribution: Santa Monica, California, to Panamá (McLean, 1978). Occurrence in the Islas Galápagos doubtful (Finet, 1985).

Include Isla Clarión, Islas Revillagigedo, México, in distribution (González-Nakagawa & Nava, 1986). Include the Islas Galápagos, Ecuador, in distribution (Finet, 1991). Include Isla Socorro, Islas Revillagigedo, México, in distribution (Holguín-Quñones, 1994). Include Rocas Alijos, México, in distribution. Depth: 20 to 50 m (McLean & Coan, 1996). Distribution: Cayucos, California, to Bahía Honda, Panamá, and the Islas Galápagos, but Panamic Province identifications are doubtful (Coan, Valentich Scott & Bernard, 2000).

--- *Acar divaricata* (Sowerby, 1833). Synonyms: *Arca hawaiiensis* Dall, Bartsch & Rehder, 1938; *Arca laysana* Dall, Bartsch & Rehder, 1938. Distribution: L'île Clipperton [France], and the Indo-Pacific (Bernard, 1983a).

71 *Acar gradata* (Broderip & Sowerby, 1829). Extend distribution into the Golfo de California at Puertecitos, Baja California (DuShane, 1962). Include the Islas Galápagos, Ecuador, in distribution (Abbott, 1974). Similar to the Caribbean *Barbatia* (*A.*) *domingensis* (Lamarck, 1819). Length: 33 mm (Draper, 1987). Extend distribution south to Paita, Perú (Alamo & Valdivieso, 1987). Include Isla del Coco, Costa Rica, in distribution (Bernard, McKinnell & Jamieson, 1991). Extend distribution north to San Diego, California (Luke, 1995).

72 *Acar rostrata* Berry, 1954. Extend distribution into the Golfo de California to Bahía San Carlos, Sonora, Mexico (DuShane & Poorman, 1967). As a synonym of *Barbatia gradata* (Broderip & Sowerby, 1829) (Abbott, 1974). A valid species. Include the Islas Galápagos, Ecuador, in distribution (Bernard, 1983a). Holotype figured (C. Hertz, 1984).

Genus *Barbatia* J. E. Gray, 1842

Subgenus *Barbatia*, s. s.

69 *Barbatia* (*B.*) *lurida* (Sowerby, 1833). Extend distribution north to Puertecitos, Baja California, México (DuShane, 1962). Length: 54.1 mm (Draper, 1987). Include the Islas Galápagos, Ecuador, in distribution (Bernard, McKinnell & Jamieson, 1991).

Subgenus *Acar* Gray, 1857

70 *Barbatia* (*A.*) *baillyi* (Bartsch, 1931). Delete here.

Genus changed. See *Acar*.

71 *Barbatia* (*A.*) *gradata* (Broderip & Sowerby, 1829). Delete here. Genus changed. See *Acar*.

72 *Barbatia* (*A.*) *rostrata* Berry, 1954. Delete here. Genus changed. See *Acar*.

Subgenus *Calloarca* Gray, 1857

73 *Barbatia* (*C.*) *alternata* (Sowerby, 1833). Include the Islas Galápagos, Ecuador, in distribution (Bernard, 1983a). Occurrence in the Islas Galápagos doubtful (Finet, 1985). Extend distribution across the Golfo de California to San Felipe, Baja California, México (Gemmell, Myers & Hertz, 1987). Length: 46.8 mm (Draper, 1987). Galápagos distribution restated (Bernard, McKinnell & Jamieson, 1991).

Subgenus *Cucullaearca* Conrad, 1865

74 *Barbatia* (*C.*) *reeveana* (d'Orbigny, 1846). Include Isla de Malpelo, Colombia, in distribution (Birkeland, Meyer, Stames & Buford, 1975). Add synonym: *Barbatia* (*C.*) *bramkampfi* Durham, 1950. Include L'île Clipperton [France] and the Islas Galápagos, Ecuador, in distribution (Bernard, 1983a). Length: 94.9 mm (Wagner & Abbott, 1990). Extend distribution south to Lobitos, Perú (Alamo & Valdivieso, 1987). Include Isla del Coco, Costa Rica, in distribution (Bernard, McKinnell & Jamieson, 1991). Include Rocas Alijos, México, in distribution. Depth: 20 to 50 m (McLean & Coan, 1996). Extend distribution north to southern California (Coan & Scott, 1997). Depth: intertidal to 120 m (Coan, Valentich Scott & Bernard, 2000).

Genus *Fugleria* Reinhart, 1937

Raised from a subgenus (Bernard, 1983a).

75 *Fugleria* *illota* (Sowerby, 1833). Extend distribution north to Puertecitos, Baja California, México (DuShane, 1962). Extend distribution to Punta [Puerto] Peñasco, Sonora, México, and south to Perú and the Islas Galápagos, Ecuador. Depth: intertidal to 73 m (Hertlein & Grant, 1972). Extend distribution north to San Felipe, Baja California, México (Gemmell, Myers & Hertz, 1987).

Subfamily ANADARINAE

Genus *Anadara* Gray, 1847Subgenus *Anadara*, s. s.

- 77 *Anadara* (*A.*) *adamsi* Olsson, 1961. Extend distribution north to Bahía de los Angeles, Baja California, México (F. & L. Poorman, 1978). Extend distribution south to the Golfo de Guayaquil, Ecuador (Cruz-P., 1983). Include Isla de Gorgona, Colombia, in distribution (von Prah, 1986).
- 78 *Anadara* (*A.*) *concinna* (Sowerby, 1833). Extend distribution across the Golfo de California to near Guaymas, Sonora, México (DuShane & Poorman, 1967). As subgenus *Sectiarca* Olsson, 1961 (Abbott, 1974). As subgenus *Anadara* (Bernard, 1983a). Not all specimens have grooved ribs. Grooving is a variable characteristic. Extend distribution north to off Isla Salvatierra, Golfo de California, México (Gemmell, Myers & Hertz, 1987).
- 79 *Anadara* (*A.*) *mazatlanica* (Hertlein & Strong, 1943). Extend distribution south to Máncora, Perú (Peña, 1971). Length: 82.2 mm (Draper, 1987). Extend distribution north to Bahía San Carlos, Sonora, México (F. & L. Poorman, 1988).
- 80 *Anadara* (*A.*) *obesa* (Sowerby, 1833). Length: 32.6 mm (Draper, 1987).
- 81 *Anadara* (*A.*) *similis* (C.B. Adams, 1852). Extend distribution south to Tumbes, Perú (Peña, 1971). Extend distribution north to the Golfo de Fonseca, El Salvador (Hernández, 1979). Extend distribution north to Boca de Ceuta, Sinaloa, México (Hendrickx & Toledano Granados, 1994).
- 82 *Anadara* (*A.*) *tuberculosa* (Sowerby, 1833). Synonyms: *Arca secticostata* Reeve, 1844; *A. valdiviana* Philippi, 1887 (Bernard, 1983a). Length: 92 mm (Draper, 1987). Extend distribution south to off Punta Telégrafo, Perú (Alamo & Valdivieso, 1987). Valves found at Mission Bay, San Diego, California (J. & C. Hertz, 1992). Size: 92 mm (Hutsell, Hutsell & Pisor, 1997). Delete *Arca valdiviana* Philippi, 1887, as a synonym (Coan, Valentich Scott & Bernard, 2000).

Subgenus *Cunearca* Dall, 1898

- 83 *Anadara* (*C.*) *aequatorialis* (d'Orbigny, 1846). Include the Islas Galápagos, Ecuador, in distribution (Bernard, 1983a). Occurrence in the Islas Galápagos doubtful (Finet, 1985). Length: 35

mm (Draper, 1987). Delete Galápagos distribution (Bernard, McKinnell & Jamieson, 1991).

- 84 *Anadara* (*C.*) *bifrons* (Carpenter, 1857). Synonym: *Arca inaequalis* Sowerby, 1832, *non* Bruguière, 1790 (Bernard, 1983a). Length: 55.4 mm (Draper, 1987).
- 85 *Anadara* (*C.*) *esmeralda* (Pilsbry & Olsson, 1941). Extend distribution south to Tumbes, Perú (Peña, 1971). Length: 59.3 mm (Draper, 1987). Extend distribution north to Nayarit, México (Reguero & García-Cubas, 1989). Extend distribution north to off Punta San Marcial, Sinaloa, México (Hendrickx & Toledano Granados, 1994).
- 87 *Anadara* (*C.*) *perlabiata* (Grant & Gale, 1931). Length: 46.6 mm (Draper, 1987). Include the Islas Galápagos, Ecuador, in distribution (Bernard, McKinnell & Jamieson, 1991).
- 88 *Anadara* (*C.*) *reinhardtii* (Lowe, 1935). Extend distribution south to Tumbes, Perú (Peña, 1971). Include Isla del Coco, Costa Rica, in distribution (Montoya, 1983). Subgenus changed from *Esmerarca* by Bernard (1983a).

Subgenus *Grandiarca* Olsson, 1961.

- 89 *Anadara* (*G.*) *grandis* (Broderip & Sowerby, 1829). As genus *Grandiarca* (Moore, 1983). Add synonym: *Arca larkini* Nelson, 1870 (Bernard, 1983a). Include Isla del Coco, Costa Rica, in distribution (Montoya, 1983). Length: 129.5 mm (Draper, 1987). Extend distribution south to Sechura, Perú (Alamo & Valdivieso, 1987). Size: 156 mm (Hutsell, Hutsell & Pisor, 1997). Delete here. Subgenus changed. See *Anadara* (*Larkinia*) *grandis* [89].

Subgenus *Larkinia* Reinhart, 1935

Synonym: *Grandiarca* Olsson, 1961 (Coan, Valentich Scott & Bernard, 2000).

- 89 *Anadara* (*L.*) *grandis* (Broderip & Sowerby, 1829). Subgenus changed from *Grandiarca* (Coan, Valentich Scott & Bernard, 2000).
- 90 *Anadara* (*L.*) *multicostata* (Sowerby, 1833). Synonyms: *Arca brandtii* Philippi, 1845; *A. camuloensis* Osmont, 1904 (Bernard, 1983a). Extend distribution south to Punta Picos, Perú (Alamo & Valdivieso, 1987). Length: 131 mm (Wagner & Abbott, 1990). Include the Islas Revillagigedo, México, in distribution (Bernard,

McKinnell & Jamieson, 1991). Extend distribution north to Palos Verdes, California (Coan, Valentich Scott & Bernard, 2000).

Subgenus *Potiarca* Iredale, 1939

- 86 *Anadara* (**P.**) *nux* (Sowerby, 1833). Extend distribution south to Tumbes, Perú (Peña, 1971). Subgenus changed from *Cunearca*. *Anadara* (*P.*) *chemnitzii* (Philippi, 1851) is a similar species from the western Atlantic (Woodring, 1973). Synonyms: *Arca zorritensis* Spieker, 1922; *A. patheonensis* Spieker, 1922. Include the Islas Galápagos, Ecuador, in distribution (Bernard, 1983a). Length: 23.9 mm (Draper, 1987). Extend distribution south to Paita, Perú (Alamo & Valdivieso, 1987). Extend distribution north to off Isla Tiburón, Golfo de California, México (Luke, 1995).

Subgenus *Rasia* Gray, 1857

- *Anadara* (**R.**) *auricula* F. R. Bernard, 1983. Synonym: *Arca auriculata* Sowerby, 1833, *non* Lamarck, 1819. Known only from Ecuador. Depth: 15 to 30 m (Bernard, 1983a).
- 91 *Anadara* (**R.**) *emarginata* (Sowerby, 1833). Depth: 51 m (Cruz-P., 1977).
- 92 *Anadara* (**R.**) *formosa* (Sowerby, 1833). Extend distribution into the Golfo de California at Bahía de los Angeles, Baja California, México (F. & L. Poorman, 1978). Extend distribution to Bahía San Carlos, Sonora, México (F. & L. Poorman, 1988).

Subgenus *Scapharca* Gray, 1847

- 93 *Anadara* (**S.**) *biangulata* (Sowerby, 1833). Depth: 5 to 80 m. Include the Islas Galápagos, Ecuador, in distribution (Bernard, 1983a). Occurrence in the Islas Galápagos doubtful (Finet, 1985). Galápagos distribution restated (Bernard, McKinnell & Jamieson, 1991).
- 94 *Anadara* (**S.**) *cepoides* (Reeve, 1844). Extend distribution across the Golfo de California to off Bahía San Carlos, Sonora, México (DuShane & Poorman, 1967).
- 96 *Anadara* (**S.**) *labiosa* (Sowerby, 1833). Extend distribution north to near Santa Rosalia, Baja California Sur, México (Draper, 1972).

Subgenus *Tosarca* Noda, 1965

- 95 *Anadara* (**T.**) *hyphalopilema* Campbell, 1962. Subgenus changed from *Scapharca*. Length: 80 mm (Draper, 1987). Extend distribution south to Guayas, Ecuador (Skoglund, 1990b).

Genus *Bathyarca* Kobelt, 1891

- *Bathyarca* *corpulenta* (E. A. Smith, 1885). Synonym: *Arca* (*Bathyarca*) *corpulenta pompholyx* Dall, 1908. Height to 35 mm. Distribution: Point Arguello, California, to off Puerto Madero, Chiapas, México. Depth: 2000 to 4900 m (Coan, Valentich Scott & Bernard, 2000).
- 97 *Bathyarca* *nucleator* Dall, 1908. As *Arca orbiculata* Dall, 1881, with synonyms *A.* (*Bathyarca*) *corpulenta* Smith, 1885; *A.* (*B.*) *imitata* Smith, 1885; *Bathyarca abyssorum* Verrill & Bush, 1898; *Arca strebeli* Melvill & Standen, 1907; *A.* (*Bathyarca*) *nucleator* Dall, 1908 [97]; *A. corpulenta* var. *pompholyx* Dall, 1908. Height: 28.8 mm. Shell and anatomy figured. Distribution: California (34°N) to Chile (34°S); west and central Pacific; Atlantic Ocean including Antarctic sector; Celebes Sea (Knudsen, 1970). Delete as synonyms: *Arca imitata* Smith, 1885; *Bathyarca abyssorum* Verrill & Bush, 1898; *Arca strebeli* Melvill & Standen, 1907. Synonym: *Bathyarca orbiculata* Dall, of Knudsen, 1970, *non* Dall, 1881. Anatomy figured. Distribution: Pacific Ocean only (Oliver & Allen, 1980). As *Bathyarca orbiculata*. Include west of Patton Escarpment, 31°35'N, 119°37'W, in distribution. Depth: 3600 to 3950 m (Luke, 1995). *Bathyarca nucleator* as a valid species without synonyms. Distribution: north Pacific, Washington, south to the Golfo de Panamá, Panamá (Coan, Valentich Scott & Bernard, 2000).

Genus *Lunarca* Gray, 1842

- 98 *Lunarca* *brevifrons* (Sowerby, 1833). Extend distribution into the Golfo de California to off Bahía San Carlos, Sonora, México (DuShane & Poorman, 1967). Depth to 90 m (Cruz-P., 1977). Length: 30.5 mm (Draper, 1987). Include the Islas Galápagos, Ecuador, in distribution (Bernard, McKinnell & Jamieson, 1991).

Family NOETIIDAE
Subfamily NOETIINAE

Genus *Noetia* Gray, 1857Subgenus *Noetia*, s. s.

- 101 *Noetia* (*N.*) *reversa* (Sowerby, 1833). Extend distribution north to Puertecitos, Baja California, México (DuShane, 1962). Include the Islas Galápagos, Ecuador, in distribution (Bernard, 1983a). Occurrence in the Islas Galápagos doubtful (Finet, 1985). Length: 67 mm (Draper, 1987). Delete Galápagos distribution (Bernard, McKinnell & Jamieson, 1991).

Subgenus *Sheldonella* Maury, 1917

- 103 *Noetia* (*S.*) *delgada* (Lowe, 1935). Extend distribution south to the Golfo de Guayaquil, Ecuador (Cruz-P., 1983). Length: 14.8 mm (Draper, 1987). Include off Bahía San Carlos, Sonora, México, in distribution. Depth: 100 m (F. & L. Poorman, 1988).

Subfamily STRIARCINAE

Moved from Arcidae by Oliver (1985).

Genus *Arcopsis* von Koenen, 1885

- 99 *Arcopsis solida* (G. B. Sowerby I, 1833). Include Puertecitos, Baja California, México, in distribution (DuShane, 1962). Extend distribution south to Chimbote, Perú (Peña, 1971). Include the Islas Galápagos, Ecuador, in distribution (Finet, 1985). Length: 19.1 mm (Draper, 1987). Include San Felipe, Baja California, México, in distribution (Gemmell, Myers & Hertz, 1987). Include Isla del Coco, Costa Rica, and the Islas Revillagigedo, México, in distribution (Bernard, McKinnell & Jamieson, 1991). Extend distribution north to La Jolla, California (Luke, 1995). Include Rocas Alijos, México, in distribution. Depth: 20 to 50 m (McLean & Coan, 1996).

Superfamily GLYCYMERIDOIDEA

Newton, 1916 (Coan & Scott, 1997)

Family GLYCYMERIDIDAE

Subfamily GLYCYMERIDINAE

Newton, 1916

Genus *Glycymeris* da Costa, 1778Subgenus *Glycymeris*, s. s.

- 110 *Glycymeris* (*G.*) *gigantea* (Reeve, 1843). Distribution: 25°N-31°N (Bernard, 1983a). Include Bahía Willard, Baja California, México, in distribution (Gemmell, Myers & Hertz, 1987). Length: 110.2 mm (Draper, 1987). Include off Bahía San Carlos, Sonora, México, in distribution. Depth: 60 m (F. & L. Poorman, 1988). Reproductive cycle figured (Villalejo-Fuerte, García-Domínguez & Ochoa-Báez, 1995). Figured shell is *Glycymeris maculata* (Broderip, 1832). See distribution south to Peña Negra, Piura, Perú, under that name (Mogollón, Peña Gonzáles & Béarez, 2000).
- 111 *Glycymeris* (*G.*) *lintea* Olsson, 1961. Add the Islas Galápagos, Ecuador, to distribution (Keen & Coan, 1975). Include Isla del Coco, Costa Rica, in distribution (Bernard, McKinnell & Jamieson, 1991).
- 112 *Glycymeris* (*G.*) *maculata* (Broderip, 1832). Extend distribution south to Pimentel, Perú (Peña, 1971). Depth: 5 to 45 m (Bernard, 1983a). Include the Islas Galápagos, Ecuador, in distribution (Finet, 1985). Length: 101 mm (Draper, 1987). Extend distribution south to Isla Guañape, Perú (Alamo & Valdivieso, 1987). Extend distribution south to Peña Negra, Piura, Perú (Mogollón, Peña Gonzáles & Béarez, 2000).
- *Glycymeris* (*G.*) *ovata* (Broderip, 1832). Synonym: *Pectunculus intermedius* Broderip, 1832. Distribution 5°S-12°S, intertidal zone (Bernard, 1983a). Distribution confirmed from Paita to Islas Chíncha, Perú (Alamo & Valdivieso, 1987).

Subgenus *Axinactis* Mörch 1861

- 113 *Glycymeris* (*A.*) *delessertii* (Reeve, 1843). Length: 52.7 mm (Draper, 1987). Extend distribution north to off Banco Gordo, Baja California Sur, México (Hendrickx & Toledano Granados, 1994).
- 114 *Glycymeris* (*A.*) *inaequalis* (Sowerby, 1833). Include the Islas Galápagos, Ecuador, Islas Revillagigedo, México, and Isla del Coco, Costa Rica, in distribution (Bernard, McKinnell & Jamieson, 1991).

Subgenus *Axinola*

Hertlein & Grant, 1972

- *Glycymeris* (*A.*) *guadalupensis* Strong, 1938. Length: 10 mm. Distribution: Isla Guadalupe, west

coast of Baja California, México. Depth: 16 to 28 m (Strong, 1938). Distribution: 23°N-27°N (Bernard, 1983a). Delete here. As a synonym. See *Glycymeris (A.) septentrionalis* (Middendorff, 1849).

- *Glycymeris (A.) septentrionalis* (Middendorff, 1849). Distribution: Gulf of Alaska to Rocas Alijos, off the west coast of Baja California Sur, México (J. Hertz, 1994). Extend distribution into the Golfo de California, México, to off Isla Smith, Bahía de los Angeles, Baja California. Depth: 120 to 170 m (Skoglund, 1995). Size: 26.3 mm (Hutsell, Hutsell & Pisor, 1997). See Coan, Valentich Scott & Bernard (2000) for many synonyms.

Subgenus *Tucetona* Iredale, 1931

- 115 *Glycymeris (T.) canoa* Pilsbry & Olsson, 1941. Delete here. Genus changed. See *Tucetona canoa* [115].
- 116 *Glycymeris (T.) multicostata* (Sowerby, 1833). Delete here. Genus changed. See *Tucetona multicostata* [116].
- 117 *Glycymeris (T.) strigilata* (Sowerby, 1833). Delete here. Genus changed. See *Tucetona (Bellaxinaea) strigilata* [117].

Genus *Tucetona* Iredale, 1931

Raised from subgenus (Nicol & Jones, 1984).

Subgenus *Tucetona*, s. s.

- 115 *Tucetona (T.) canoa* (Pilsbry & Lowe, 1941). Size: 44 mm (Hutsell, Hutsell & Pisor, 1997). Extend distribution north to off Cabo San Miguel, Baja California, México (Hendrickx & Toledano Granados, 1994).
- 116 *Tucetona (T.) multicostata* (Sowerby, 1833). Extend distribution across the Golfo de California to Puertecitos, Baja California, México (DuShane, 1962). Size: 46 mm (Hutsell, Hutsell & Pisor, 1997). Delete here. Subgenus changed. See *Tucetona (Bellaxinaea) multicostata* (Sowerby, 1833) [116].
- 117 *Tucetona (T.) strigilata* (Sowerby, 1833). Include Isla del Coco, Costa Rica, in distribution (Bernard, McKinnell & Jamieson, 1991). Extend distribution across the Golfo de California, México, to off Isla San Marcos (Mulliner, 2000).

Subgenus *Bellaxinaea* Nicol & Jones, 1984

- 116 *Tucetona (B.) multicostata* (Sowerby, 1833). Add synonym: *Pectunculus parcipictus* Reeve, 1843. Extend distribution to the Islas Galápagos, Ecuador (Bernard, 1983a). Include Isla del Coco, Costa Rica, in distribution (Montoya, 1983). New subgenus (Nicol & Jones, 1984). Length: 46 mm (Draper, 1987).

Superfamily LIMOPSOIDEA
Family LIMOPSIDAE

Genus *Limopsis* Sassi, 1827

- 105 *Limopsis diazi* Dall, 1908. Delete here. As a synonym. See *Limopsis panamensis* Dall, 1902 [107].
- 106 *Limopsis juarezi* Dall, 1908. Distribution: 6°N (Bernard, 1983a). Delete here. As a synonym. See *Limopsis panamensis* Dall, 1902 [107].
- 107 *Limopsis panamensis* Dall, 1902. Synonym: *Limopsis diegensis* Dall, 1908 (Coan & Scott, 1997). [This synonym would extend the distribution to off San Diego, California.] Add synonyms: *Limopsis juarezi* Dall, 1908 [106]; *L. stimpsoni* Dall, 1908 [108]; *L. diazi* Dall, 1908 [105]. Distribution: Oregon to Isla Cedros, Baja California, México, to Panamá. Depth: 130 to 3900 m (Coan, Valentich Scott & Bernard, 2000).
- 108 *Limopsis stimpsoni* Dall, 1908. Shell figured by Keen (1996) as a holotype is actually a lectotype (Kabat, 1996). Delete here. As a synonym. See *Limopsis panamensis* Dall, 1902 [107].
- 104 *Limopsis tenella* Jeffreys, 1876. As *Limopsis dalli* Lamy, 1912 [104]. Synonym: *Limopsis compressus* Dall, 1896, non Nevill, 1874 [104]. Length: 40 mm. Distribution: off Baja California, México, to the Golfo de Panamá. Depth: 2071-4200 m. Regarded by Knudsen as a subspecies of *L. pelagica* Smith, 1885 (Keen, 1971). Cosmopolitan, but absent from the Arctic Ocean. Delete *Limopsis pelagica* as a synonym (Oliver, 1981). As *L. compressus*. Include Isla del Coco, Costa Rica, in distribution (Montoya, 1983). As *L. dalli*. Distribution: 6°N-52°N (Bernard, 1983a). As *Limopsis tenella* Jeffreys, 1876. Include the Islas Galápagos, Ecuador, in distribution (Kaiser, 1997). Synonyms: *Limopsis pelagica* E. A. Smith, 1885; *L. plana* Verrill, 1885; *L. compressa* Dall, 1896, non

G. Nevill & H. Nevill, 1874 [104]; *L. profundicola* Verrill & Bush, 1898; *L. transversa* Locard, 1898; *L. dalli* Lamy, 1912; *L. guineensis* Thiele, in Thiele & Jaekel, 1931. Distribution: Adak Island, Alaska, south to the Golfo de Panamá, and the Islas Galápagos (Coan, Valentich Scott & Bernard, 2000).

- 109 *Limopsis zonalis* Dall, 1908. Cosmopolitan, but absent from the Arctic Ocean (Oliver, 1981). Distribution south to off Punta de Sama, Perú, confirmed (Alamo & Valdivieso, 1987). Include the Islas Galápagos, Ecuador, in distribution (Bernard, McKinnell & Jamieson, 1991).

Superfamily PHILOBRYOIDEA

F. Bernard, 1897

Family PHILOBRYIDAE

Genus *Philobrya*

Cooper, 1867, ex Carpenter MS

Author of genus changed from Carpenter, 1872 (Coan, 1986).

- 118 *Philobrya setosa* (Carpenter, 1894). Syntype figured (Tevesz, 1977). Include Rocas Alijos, México, in distribution (McLean & Coan, 1996). Extend distribution south to Punta Santa Elena, Costa Rica (Coan, Valentich Scott & Bernard, 2000).

Order MYTILOIDA

Superfamily MYTILOIDEA

Family MYTILIDAE

Subfamily MYTILINAE

Genus *Mytilus* Linnaeus, 1758

- *Mytilus californianus* Conrad, 1837. Distribution: Aleutian Islands, Alaska, to Isla Socorro, Islas Revillagigedo, México (Abbott, 1974). Distribution: 19°N-60°N. Depth: intertidal zone to 50 m (Bernard, 1983a). Length: 251 mm (Draper, 1987). Size: 258 mm (Hutsell, Hutsell & Pisor, 1997). Synonym: *Mytilus edulis giganteus* von Nordmann, 1862, ex Homberg MS. Distribution: Alaska to Puerto Rompiente, Baja California Sur; and Isla Socorro, Islas Revillagigedo, México (Coan, Valentich Scott & Bernard, 2000).
- *Mytilus edulis* Linnaeus, 1758. Synonyms: *Mytilus trossulus* Gould, 1850; *M. glomeratus* Gould, 1851;

M. pedroanus Conrad, 1855; *M. edulis latissimus* Carpenter, 1857; *M. edulis normalis* Carpenter, 1857; *M. septentrionalis* Küster & Clessin, 1889; *M. edulis diegensis* Coe, 1945; *M. edulis kussakini* Scarlato & Starobogatov, 1979. Distribution: 23°N-71°N; cosmopolitan in temperate and cold seas. Depth: intertidal zone to 5 m (Bernard, 1983a). Length: 133.2 mm (Draper, 1987). Delete. Does not occur on the Pacific coast of North America (McDonald & Koehn, 1988). Subject to experimental mariculture in British Columbia, Canada, and present on both coasts of South America (Coan, Valentich Scott & Bernard, 2000).

- *Mytilus galloprovincialis* Lamarck, 1819. Synonyms: *Mytilus edulis diegensis* Coe, 1945; *M. edulis* Soot-Ryen, 1955, non Linnaeus, 1758 (in part). A genetically distinct, introduced species. Distribution: southern California to Cabo San Lucas, Baja California Sur, México; Mediterranean Sea; Japan; Hong Kong; South Africa; Atlantic coast of Europe north of the British Isles. In bays, estuaries, and exposed coasts, attached to hard substrates from mid-tide level to several meters subtidally (McDonald & Koehn, 1988). Extend distribution north to Monterey Bay, California (Scott & Nybakken, 1994). Add synonym: *Mytilus edulis zhirmunskii* Scarlato & Starobogatov, 1979. Extend distribution south to Manzanillo, Colima, México (Coan, Valentich Scott & Bernard, 2000).

Genus *Brachidontes* Swainson, 1840

- 119 *Brachidontes adamsianus* (Dunker, 1857). As genus *Aeidimylus* Olsson, 1961 (Hertlein & Grant, 1972). As *Brachidontes*. Hinge figured. Include Puertecitos, Baja California, México, in distribution (Gemmell, Myers & Hertz, 1987). Include Isla Socorro, Islas Revillagigedo, México, in distribution (Holguín-Quifiones, 1994). Distribution: Anacapa Island, California, throughout the Golfo de California, México, south to Puerto de Cayo and the Islas Galápagos, Ecuador (Coan, Valentich Scott & Bernard, 2000).
- *Brachidontes purpuratus* (Lamarck, 1819). As genus *Perumytilus*. Distribution: Ecuador, south to the straits of Magellan, and north to Santa Cruz, Argentina (Marincovich, 1973). As genus *Brachidontes*. Synonyms: *Mytilus ovalis* Lamarck, 1819; ?*M. exaratus* Philippi, 1847; *M. exilis* Philippi, 1847; *M. bifurcatus* Dautzenberg, 1896,

non Conrad, 1837. Distribution: 1°S-41°S, including the Islas Galápagos, Ecuador. Intertidal zone (Bernard, 1983a). Occurrence in the Islas Galápagos doubtful (Finet, 1985). Distribution in Perú confirmed from Yasila to Atico (Alamo & Valdivieso, 1987). Delete Galápagos distribution (Bernard, McKinnell & Jamieson, 1991).

- 122 *Brachidontes semilaevis* (Menke, 1849). As *B. multiformis* Carpenter, 1857. Extend distribution south to Chimbote, Perú (Peña, 1971). Delete *Brachidontes multiformis*, as a synonym; valid species (Abbott, 1974). *B. multiformis* as a synonym (Bernard, 1983a). Include the Islas Galápagos, Ecuador, in distribution (Finet, 1985). Hinge figured. Include San Felipe, Baja California, México, in distribution (Gemmell, Myers & Hertz, 1987).

Genus *Choromytilus* Soot-Ryen, 1952

- 123 *Choromytilus palliopunctatus* (Carpenter, 1857). Synonym: *Mytilus tenuiaratus* Carpenter, 1857, *ex* Dunker MS, *nom. nud.* (Bernard, 1983a). Length: 192.5 mm (Draper, 1987).

Genus *Mytella* Soot-Ryen, 1955

- 125 *Mytella guyanensis* (Lamarck, 1819). Extend distribution across the Golfo de California to Puertecitos, Baja California, México (DuShane, 1962). Add synonyms: *Mytilus bicolor* Lamarck, 1819; *Modiola semifusca* Sowerby, 1825; *M. brasiliensis mutabilis* Carpenter, 1857 (Bernard, 1983a). Include San Felipe, Baja California, México, in distribution (Gemmell, Myers & Hertz, 1987). Length: 75.1 mm (Draper, 1987). Synonym: *Modiola subfuscata* Clessin, 1887, *ex* G. B. Sowerby [I] MS (Coan, Valentich Scott & Bernard, 2000).
- 126 *Mytella speciosa* (Reeve, 1857). Extend distribution into the Golfo de California to Puertecitos, Baja California, México (DuShane, 1962). Synonyms: *Modiolus planata* Tomlin, 1928, *ex* Carpenter MS; *M. (M.) tumbezensis* Pilsbry & Olsson, 1935 [128] (Bernard, 1983a). Delete *M. tumbezensis* as a synonym. See *Mytella tumbezensis* Pilsbry & Olsson, 1935.
- 127 *Mytella strigata* (Hanley, 1843). Add synonym: *Mytilus sinuatus* Reeve, 1857 (Bernard, 1983a). Anatomy figured (Villarroel & Stuardo, 1995).

- 128 *Mytella tumbezensis* (Pilsbry & Olsson, 1935). Bernard (1983a) made this a synonym of *M. speciosa* (Reeve, 1857) [126], but later decided it was a good species (Coan, pers. comm., 1990).

Genus *Semimytilus* Soot-Ryen, 1955

- *Semimytilus algosus* (Gould, 1850). Synonyms: *Mytilus dactyliformis* Hupé, 1854; *M. splendens* Dunker, 1856, *non* Reeve, 1857; *M. cuneiformis* Reeve, 1857, *non* Hanley, 1843; *M. angustanus* Reeve, 1857 (Clessin 1889), *non* Lamarck, 1819; *M. patagonicus* Clessin 1889, *nond'* Orbigny, 1846; *M. similis* Clessin, 1889; *Modiolus nonuranus* Pilsbry & Olsson, 1935. Distribution: Manta, Ecuador, to Tumbles and the Islas Juan Fernandez, Chile (Soot-Ryen, 1955). Distribution: Paita, Perú, to the Golfo de Arauco, Chile (Marincovich, 1973). Distribution to Paita, Perú, confirmed (Alamo & Valdivieso, 1987).

Subfamily BATHYMODIOLINAE
Kenk & Wilson, 1985

Genus *Bathymodiolus* Kenk & Wilson, 1985

- *Bathymodiolus thermophilus* Kenk & Wilson, 1985. Length: 149.5 mm. Galápagos Rift thermal vents. Depth: 2495 m (Kenk & Wilson, 1985). Also known from the East Pacific Rise. Hinge figured (Gustafson, *et. al.*, 1998).

Genus *Benthomodiolus* Dell, 1987

- *Benthomodiolus abyssicola* (Knudsen, 1970). Length: 17.2 mm. Anatomy figured. Distribution: Golfo de Panamá. Depth: 3270-3670 m (Knudsen, 1970). Holotype figured (Kenk & Wilson, 1985). Genus changed from *Modiolus* to *Bathymodiolus*. Foot muscle mass figured (Dell, 1987). Genus changed to *Benthomodiolus*. Length to 32 mm. Distribution: southern California and the Golfo de Panamá. Depth: 3270 to 3950 m (Coan, Valentich Scott & Bernard, 2000).

Subfamily CRENELLINAE

Genus *Crenella* Brown, 1827

- 130 *Crenella caudiva* Olsson, 1961. Distribution:

Manabí Province to the Golfo de Guayaquil, Ecuador (Cruz-P., 1983).

- 131 *Crenella decussata* (Montagu, 1808). As *Crenella inflata* Carpenter, 1864, with synonym: *Nuculocardia divaricata* d'Orbigny, auctt., non d'Orbigny, 1842. Distribution: Huntington Beach, California, to the Golfo de California, México, and south to Callao, Perú. Depth: 4 to 91 m (Hertlein & Grant, 1972). Synonym: *Crenella inflata* Carpenter, 1864, non *Mytilus inflatus* Müller, 1847. Include Isla del Coco, Costa Rica, in distribution (Bernard, 1983a). As *C. divaricata* [131]. Include off Isla Huerfanito, Golfo de California, México, (30°04'N, 114°33'42"W) in distribution (Gemmell, Myers & Hertz, 1987). Include the Islas Galápagos, Ecuador, in distribution (Bernard, McKinnell & Jamieson, 1991). Occurrence in the Islas Galápagos doubtful (Finet, 1994b). As *C. decussata*. Distribution: Alaska to the Panamic Province including Rocas Alijos, México. Depth: 90 m (McLean & Coan, 1996). Synonym: *Crenella divaricata* (d'Orbigny, 1847) [131] (Coan & Scott, 1997). Add synonyms: *Crenella? inflata* Carpenter, 1864; *C. yokoyamai* Nomura, 1932; *C. ecuadoriana* Pilsbry & Olsson, 1941; *C. decussata laticostata* Scarlato, 1960. Distribution: Arctic and circumboreal. Beaufort Sea, Alaska, south through the Golfo de California, México, and to northern Perú, including the Islas Galápagos, Ecuador. In the Atlantic from North Carolina to the Caribbean; the British Isles; Japan. Depth: intertidal zone to 492 m (Valentich Scott, 1998). Add synonyms: *Crenella elliptica* T. Brown, 1827; *Modiola? cicercula* Möller, 1842 (Coan, Valentich Scott & Bernard, 2000).

Genus *Gregariella* Monterosato, 1884

- 132 *Gregariella chenui* (Récluz, 1842). Synonyms: *Mytilus chenuanus* d'Orbigny, 1846; *M. fontaineaus* d'Orbigny, 1846 (Hertlein & Grant, 1972). Extend distribution to near the head of the Golfo de California at San Felipe, Baja California, México (Gemmell, Myers & Hertz, 1987). Include the Islas Galápagos, Ecuador, in distribution (Bernard, McKinnell & Jamieson, 1991). Occurrence in the Islas Galápagos doubtful (Finet, 1994b). Delete. An Atlantic species (Coan & Scott, 1997).
- 133 *Gregariella coarctata* (Carpenter, 1857). Extend

distribution into the Golfo de California to Puertecitos, Baja California, México (DuShane, 1962). As *Gregariella coralliophaga* (Gmelin, 1791). A widespread and variable species that has many synonyms including *Gregariella coarctata* (Carpenter, 1857). Distribution: Monterey, California, to Perú; North Carolina to Texas; West Indies; Bermuda; Brazil (Abbott, 1974). As *G. coarctata*. Occurrence in the Islas Galápagos doubtful (Finet, 1985). Extend distribution to Bahía San Carlos area, Sonora, México (F. & L. Poorman, 1988). *Gregariella coarctata* as an eastern Pacific species. *Gregariella coralliophaga* as a Caribbean species (Kleemann, 1986). Islas Galápagos distribution restated (Bernard, McKinnell & Jamieson, 1991). Include Rocas Alijos, México, in distribution. Depth: 90 m (McLean & Coan, 1996). Synonym: *Modiolaria denticulata* Dall, 1871. Distribution: Monterey, California, throughout the Golfo de California, México, and south to Callao, Perú (13°S), including the Islas Galápagos, Ecuador. Depth: intertidal zone to 100 m (Valentich Scott, 1998). Delete *Modiolaria denticulata* Dall, 1871, as a synonym (Coan, Valentich Scott & Bernard, 2000).

- 134 *Gregariella denticulata* (Dall, 1871). Extend distribution north to Bahía San Carlos, Sonora, México (DuShane & Poorman, 1967). As a synonym of *Gregariella coarctata* (Carpenter, 1857) [133] (Valentich Scott, 1998). As a valid species (Coan, Valentich Scott & Bernard, 2000).

Genus *Lioberus* Dall, 1898

- 135 *Lioberus salvadoricus* (Hertlein & Strong, 1946). Include off Bahía San Carlos, Sonora, México, in distribution (DuShane & Poorman, 1967). Length: 47.6 mm (Wagner & Abbott, 1989).
- 136 *Lioberus splendidus* (Dunker, 1857). Include off Roca Consag, Golfo de California, México, in distribution (DuShane & Brennan, 1969). Delete. Probably a west Atlantic species (Bernard, 1983a).

Genus *Megacrenella* Habe & Ito, 1965

- 137 *Megacrenella columbiana* (Dall, 1897). Delete here. Genus changed. See *Solamen*.

Genus *Solamen* Iredale, 1924

Synonym: *Megacrenella* Habe & Ito, 1965 (Coan &

Scott, 1997).

- 137 *Solamen columbianum* (Dall, 1897). As genus *Rhomboidella*. *Crenella megas* Dall, 1902, not listed as a synonym. Distribution: Aleutian Islands, Alaska, to México (Abbott, 1974). As genus *Megacrenella*. Synonym: *Crenella tamurai* Habe, 1955. Distribution: 17°N-60°N (Bernard, 1983a). As genus *Solamen*. Include Rocas Alijos, México, in distribution. Depth: 90 m (McLean & Coan, 1996). Delete *Crenella megas* Dall, 1902, as a synonym (Coan & Scott, 1997). Synonym: *Crenella tamurai* Habe, 1955. Delete as synonym: *Crenella rotundata* Dall, 1916. Holotype figured. Distribution: Bering Sea; Cook Inlet, Alaska, to Bahía de Panamá; Siberia and northern Japan. Depth: 20-500 m (Valentich Scott, 1998). Delete. Distribution is north of the Panamic Province. (Coan, Valentich Scott & Bernard, 2000). See *Solamen megas* (Dall, 1902) for Panamic species.
- *Solamen megas* (Dall, 1902). Distribution: southern California to Panamá (Coan & Scott, 1997). Distribution: Santa Barbara Island, California, into the Golfo de California, México, south to Panamá. Length: 11 mm (Coan, Valentich Scott & Bernard, 2000). Length: 30 mm. Extend distribution north in the Golfo de California, México, to Isla Danzante. Depth: 60-90 m (Norrid, 2000).

Subfamily DACRYINAE

Ockelmann, 1983

Genus *Dacrydium* Torell, 1859

Subgenus *Dacrydium*, s. s.

- *Dacrydium* (D.) *pacificum* Dall, 1916. Distribution: Alaska to southern Baja California, México, and including Rocas Alijos, México. Depth: 90 m (McLean & Coan, 1996). Extend distribution north to the Pribiloff Islands, Bering Sea (Coan, Valentich Scott & Bernard, 2000).
- *Dacrydium* (D.) *panamensis* Knudsen, 1970. Length: 5 mm. Distribution: Acapulco, Guerrero, México, to the Golfo de Panamá. Depth: 3270 to 3670 m (Knudsen, 1970). Include the Islas Galápagos, Ecuador, in distribution (Bernard, McKinnell & Jamieson, 1991). Include off Bahía San Cristobal, Baja California Sur, México (27°08'N, 115°09'W), in distribution. Depth: 4085

to 4096 m (Luke, 1995).

Subgenus *Quendreda* Iredale, 1936

- *Dacrydium* (Q.) *elegantulum* Soot-Ryen, 1955. Length: 2.4 mm. Redondo Beach, California, to the Islas Galápagos, Ecuador, in 25 to 200 m (Soot-Ryen, 1955). Distribution: 28°N-34°N (Bernard, 1983a). Occurrence in the Islas Galápagos is doubtful Finet (1985). [The type locality is Bahía de Gardner, Islas Galápagos.] Soot-Ryan record of occurrence in southern California in error (Coan, Valentich Scott & Bernard, 2000).

Subfamily LITHOPHAGINAE

Genus *Lithophaga* Röding, 1798

Subgenus *Diberus* Dall, 1898

- *Lithophaga* (D.) *canalifera* (Hanley, 1843). Distribution: 1°S-4°N, intertidal zone (Bernard, 1983a). Lectotype designated. Length: 39.5 mm (Kleemann, 1983).
- 138 *Lithophaga* (D.) *plumula* (Hanley, 1843). Include Puertecitos, Baja California, México, in distribution (DuShane, 1962). Add synonyms: ?*Lithodomus subula* Reeve, 1857; ?*Lithophaga plumula kelseyi* Hertlein & Strong, 1946 (Keen & Coan, 1975). Include Isla de Malpelo, Colombia, in distribution (Birkeland, Meyer, Stames & Buford, 1975). Lectotype designated. Add synonyms: ?(*Diberus*) *mucronata* (Philippi, 1846) *Lithophaga plumula* var. *gracilior* Carpenter, 1857; *L. plumula* var. *tumidior* Carpenter, 1857; (Kleemann, 1983). Distribution: 4°S-40°N, including L'île Clipperton [France] and the Islas Galápagos, Ecuador (Bernard, 1983a). Synonym: *Lithophaga* (D.) *divaricalx* Iredale, 1939 (holotype figured). Include the Philippines and Australia in distribution (Kleemann, 1984). Occurrence in the Islas Galápagos doubtful (Finet, 1985). Length: 72.5 mm (Draper, 1987). Include Isla del Coco, Costa Rica, and the Islas Galápagos, Ecuador, in distribution (Bernard, McKinnell & Jamieson, 1991). Include Isla Socorro, Islas Revillagigedo, México, in distribution (Holguín-Quifiones, 1994). Add synonyms: *Lithodomus subula* Reeve, 1857; *Lithophaga cavernosa* Dunker, 1882 (Coan, Valentich Scott & Bernard, 2000).

Subgenus *Labis* Dall, 1916

- 139 *Lithophaga* (*L.*) *attenuata* (Deshayes, 1836). Synonym: *Lithophaga* (*L.*) *attenuata rogersi* Berry, 1957 [140] (Kleeman, 1983). Holotype of *L. (L.) attenuata rogersi* figured (C. Hertz, 1984). Length: 110.6 mm (Draper, 1987). As *L. attenuata rogersi*. Include Bahía Willard, Baja California, México, in distribution (Gemmell, Myers & Hertz, 1987). Extend distribution to include Bahía Magdalena, Baja California Sur, México (Félix-Pico & García-Dominguez, 1993). Size: 110.6 mm (Hutsell, Hutsell & Pisor, 1997). Distribution: Redondo Beach, California, throughout the Golfo de California, México, and south to Paita, Perú (Coan, Valentich Scott & Bernard, 2000).
- 140 *Lithophaga* (*L.*) *attenuata rogersi* Berry, 1957. Delete here. As a synonym. See *Lithophaga* (*L.*) *attenuata* (Deshayes, 1836) [139].

Subgenus *Myoforceps* Fischer, 1886

- 143 *Lithophaga* (*M.*) *aristata* (Dillwyn, 1817). Include Puertecitos, Baja California, México, in distribution (DuShane, 1962). Add synonyms: *Lithophaga ropan* Deshayes, 1836; *L. calyculata* (Carpenter, 1857) [145]; *L. forficata* (Ravenel, 1861); *L. bipenniferus* (Guppy, 1877) (Abbott, 1974). Include Isla de Malpelo, Colombia, in distribution (Birkeland, Meyer, Stames & Buford, 1975). Include Isla del Coco, Costa Rica, in distribution (Montoya, 1983). Add synonym: *Lithophaga incurva* Gabb, 1861. Include the Islas Galápagos in distribution (Bernard, 1983a). Delete *Lithophaga incurva* Gabb, 1861, as a synonym as it is a fossil *Botula* (Kleemann, 1983). Length: 32.8 mm (Draper, 1987). Include the Islas Revillagigedo, México, in distribution (Bernard, McKinnell & Jamieson, 1991). Include Isla Socorro, Islas Revillagigedo, México, in distribution (Holguín-Quñones, 1994). Add synonyms: *Mytilus ropan* Deshayes, in Lamarck & Deshayes, 1836; *Dactylus carpenteri* Mörch, 1861; *Lithodomus forficatus* Ravenel, 1861; *Modiola (Lithodomus) excavata* de Folin, 1867; *Lithodomus bipenniferus* Guppy, 1877. Include L'île Clipperton [France] in distribution (Coan, Valentich Scott & Bernard, 2000).

Subgenus *Rupiphaga* Olsson, 1961

- 144 *Lithophaga* (*R.*) *hastasia* Olsson, 1961. Extend distribution south to Cabo Blanco, Piura, Perú (Mogollón, Peña Gonzáles & Béarez, 2000).

Subgenus *Stumpiella* Soot-Ryen, 1955

- 145 *Lithophaga* (*S.*) *calyculata* (Carpenter, 1857). Include the Islas Revillagigedo, México, in distribution (Strong & Hanna, 1930). As a synonym of *Myoforceps aristata* (Dillwyn, 1817) [143] (Abbott, 1974). As a valid species. Include L'île Clipperton [France] in distribution (Bernard, 1983a). Occurrence in the Islas Galápagos doubtful (Finet, 1985). Length: 23.1 mm (Draper, 1987). Include Isla del Coco, Costa Rica, in distribution. Islas Galápagos distribution restated (Bernard, McKinnell & Jamieson, 1991).

No subgenus given

- *Lithophaga peruviana* (d'Orbigny, 1846). Include Isla del Coco, Costa Rica, in distribution (Bernard, McKinnell & Jamieson, 1991).

Genus *Adula* H. & A. Adams, 1857

- *Adula diegensis* (Dall, 1911). Length: 24 mm. Distribution: Coos Bay, Oregon, south into the Golfo de California as far north as La Libertad, Sonora, México (Coan, Valentich Scott & Bernard, 2000).
- 147 *Adula soleniformis* (d'Orbigny, 1846). Synonym: *Adula soleniformis panamensis* Olsson, 1961 [148]. Distribution: 5°S-8°N (Bernard, 1983a).
- 148 *Adula soleniformis panamensis* Olsson, 1961. Delete here. As a synonym. See *A. soleniformis* (d'Orbigny, 1846) [147].

Genus *Botula* Mörch, 1853

Moved from subfamily Modiolinae (Wilson & Tait, 1984).

- 155 *Botula fusca* (Gmelin, 1791). Synonym: *Botula cylista* Berry, 1959 [155]. Distribution 1°S-23°N, including the Atlantic (Bernard, 1983a). Holotype of *B. cylista* figured (C. Hertz, 1984). Add synonyms: *Modiola cinnamomea* Lamarck, 1819; *M. silicula* Lamarck, 1819; *M. favanni* Potiez & Michaud, 1844; *Lithodomus projectans* Tate, 1892; *Botula hawaiiensis* Dall, Bartsch & Rehder, 1938;

B. laysana Dall, Bartsch & Rehder, 1938; *Botulopa silicula infra* Iredale, 1939. Anatomy and holotypes of several of the synonyms figured. Length: 29 mm. The single species in the genus is widespread in tropical and subtropical Indian, Pacific and western Atlantic oceans. Bores in dead corals, coral rocks and other calcareous rocks. Depth: intertidal zone to 532 m (Wilson & Tait, 1984).

Genus *Leiosolenus* Carpenter, 1857
Raised to genus (Wilson & Tait, 1984).

- 141 *Leiosolenus laevigata* (Quoy & Gaimard, 1835). Synonym: *Lithophaga hancocki* Soot-Ryen, 1955 [141]. Found only in living coral. Distribution: Islas Galápagos, Ecuador; Indonesia; Australia; Maldive Islands; Red Sea (Kleemann, 1980). Include L'île Clipperton [France], in distribution (Bernard, 1983a). Occurrence in the Islas Galápagos doubtful (Finet, 1985). Islas Galápagos distribution restated (Bernard, McKinnell & Jamieson, 1991).
- 142 *Leiosolenus spatiosa* (Carpenter, 1857). Length: 65 mm (Draper, 1987).

Subfamily MODIOLINAE

Genus *Modiolus* Lamarck, 1799
Subgenus *Modiolus*, s. s.

- 151 *Modiolus* (*M.*) *americanus* (Leach, 1815). Synonyms: *Modiolus tulipa* Lamarck, 1819; *M. pseudotulipus* Olsson, 1961[151]. Distribution: Golfo de California, México, to Perú; South Carolina to Brazil; Bermuda (Abbott, 1974). Depth: intertidal zone to 20 m (Bernard, 1983a). Include off Roca Consag, Golfo de California, México, in distribution (Hendrickx & Toledano Granados, 1994).
- 149 *Modiolus* (*M.*) *capax* (Conrad, 1837). Extend distribution into the Golfo de California to Puertecitos, Baja California, México (DuShane, 1962). Extend distribution north to off Roca Consag, Golfo de California, México (DuShane & Brennan, 1969). Add synonym: *Mytilus splendens* Dunker, 1857. Include the Islas Galápagos, Ecuador, in distribution (Bernard, 1983a). Length: 188 mm (Draper, 1987). Include the Islas Revillagigedo, México, in distribution (Bernard, McKinnell & Jamieson, 1991). Delete *Modiola*

subfuscata Clessin, 1887, ex Sowerby MS, as a synonym. Distribution: Santa Cruz, California, throughout the Golfo de California, México, south to Paita, Perú, and the Islas Galápagos (Coan, Valentich Scott & Bernard, 2000).

Subgenus *Modiolusia*
Yamamoto & Habe, 1958

- *Modiolus* (*M.*) *neglectus* Soot-Ryen, 1955. Distribution: 23°N-37°N. Depth: 15 to 110 m (Bernard, 1983a). Subgenus changed. Distribution: Monterey Bay, California, to the Outer Gorda Bank, Baja California Sur, México (Coan, Valentich Scott & Bernard, 2000).
- 152 *Modiolus* (*M.*) *rectus* (Conrad, 1837). Distribution: Vancouver Island, British Columbia, Canada, to the Golfo de California, México (McLean, 1978). Extend distribution north to Bahía San Luis Gonzaga, Baja California, México (Mulliner, 1984). Synonym: *Modiolus pacificus* Olsson, 1961. Distribution 5°S-35°N, including the Islas Galápagos, Ecuador (Bernard, 1983a). Occurrence in the Islas Galápagos, Ecuador, doubtful (Finet, 1985). Length: 213 mm (Draper, 1987). Delete Galápagos distribution (Bernard, McKinnell & Jamieson, 1991). Subgenus changed. Add synonyms: *Modiola elongata* Carpenter, 1857, ex Gould MS; *Modiolus directus* Dall, 1909. Distribution: Queen Charlotte Islands, British Columbia, Canada, throughout the Golfo de California, México, south to Paita, Perú (Coan, Valentich Scott & Bernard, 2000).

Genus *Amygdalum*
Megerle von Mühlfeld, 1811

- 154 *Amygdalum politum* (Verrill & Smith in Verrill, 1880). Distribution: 28°N-37°N (Bernard, 1983a). Length: 22.6 mm (Draper, 1987). Synonyms: *Mytilus luteus* Jeffreys, 1880, *nom. nud.*; *Modiolus* (?*Politus*) *pallidulus* Dall, 1916 [154]. Distribution: Trinidad Harbor, California, to Acapulco, Guerrero, México (Valentich Scott, 1998). Extend distribution south to Isla de Gorgona, Colombia, and include the North Atlantic and the Mediterranean. Depth: 40 to 400 m (Coan, Valentich Scott & Bernard, 2000).

Genus *Idas* Jeffreys, 1876

- *Idas washingtonius* (Bernard, 1978). Holotype figured. Length to 9 mm. Distribution: off Cape Flattery, Washington, to off Santa Catalina Island, California; Guaymas Basin, Golfo de California, México; Japan; New Zealand. Depth: 1240 to 2200 m (Coan, Valentich Scott & Bernard, 2000).

Subfamily **SEPTIFERINAE**
Scarlato & Starobogotov, 1979

Genus *Septifer* Récluz, 1848

- *Septifer bifurcatus* (Conrad, 1837). Length: 32 mm. Distribution: Crescent City, California, to Cabo San Lucas, Baja California Sur, México (McLean, 1978). Synonym: *Septifer bifurcatus obsoletus* Dall, 1916. Depth: intertidal zone to 50 m (Bernard, 1983a). Distribution: Monterey, California, to Cabo San Lucas, Baja California, Sur, México (Coan, Valentich Scott & Bernard, 2000).
- 129 *Septifer zeteki* Hertlein & Strong, 1946. Include off Bahía San Carlos, Sonora, México, in distribution (DuShane & Poorman, 1969). Include off Roca Consag, Golfo de California, México, in distribution (DuShane & Brennan, 1969). Include Isla de Malpelo, Colombia, in distribution (Birkeland, Meyer, Stames & Buford, 1975). Add synonym: *Mytilus cumingianus* Reeve, 1858. Include the Islas Galápagos, Ecuador, in distribution (Bernard, 1983a). Occurrence in the Islas Galápagos doubtful (Finet, 1985). Galápagos distribution confirmed (Shasky, 1989). Include Isla del Coco, Costa Rica, and the Islas Revillagigedo, México, in distribution (Bernard, McKinnell & Jamieson, 1991).

Order **PTERIOIDA** Newell, 1965
Suborder **PTERIINA** Newell, 1965
Superfamily **PTERIOIDEA**
Family **PTERIIDAE**

Genus *Pteria* Scopoli, 1777

- 161 *Pteria sterna* (Gould, 1851). Depth to 90 m (Cruz-P., 1977). Add synonyms: *Avicula eximia* Reeve, 1857; *A. libella* Reeve, 1857; *Pteria rositae* Hertlein, 1928. Delete *Pteria viridizona* Dall, 1916, as a synonym. Distribution: 30°N-5°S (Bernard, 1983a). Include the Islas Galápagos, Ecuador, in distribution (Finet, 1985). Length: 152 mm

(Wagner & Abbott, 1990). Include Isla del Coco, Costa Rica, in distribution (Bernard, McKinnell & Jamieson, 1991). Include Bahía Magdalena, Baja California Sur, México, in distribution (Félix-Pico & García-Domínguez, 1993). Extend distribution north to southern California (Coan & Scott, 1997). Size: 152 mm (Hutsell, Hutsell & Pisor, 1997). Extend distribution south to include Bahía de Ancón, Perú (Paredes *et al.*, 1998). Extend distribution north to Venice, California (Coan, Valentich Scott & Bernard, 2000).

Genus *Pinctada* Röding, 1798

- 162 *Pinctada mazatlanica* (Hanley, 1856). Add L'île Clipperton [France] and the Islas Galápagos, Ecuador, to distribution (Bernard, 1983a). Length: 180 mm (Draper, 1987). Extend distribution to Boynton Beach, Florida. Depth: 27 m (Frank, 1993). Include Isla del Coco, Costa Rica, in distribution (Bernard, McKinnell & Jamieson, 1991). Gonadal development figured (García-Domínguez, Ceballos-Vázquez & Quezada, 1996). Size: 180 mm (Hutsell, Hutsell & Pisor, 1997).

Family **ISOGNOMONIDAE**

Genus *Isognomon*
Lightfoot, 1786, ex Solander MS
Subgenus *Melina* Retzius, 1788

The subgenus *Isognomon*, s. s., is not represented in the eastern Pacific (Coan, Valentich Scott & Bernard, 2000).

- *Isognomon (M.) incisus* (Conrad, 1837). Synonym: *Perna torva* Gould, 1850. Length: 33 mm. Distribution: Hawaiian Islands (Kay, 1979). Extend distribution to Isla del Coco, Costa Rica (Shasky, 1986a). Figured (Shasky, 1986b).
- 163 *Isognomon (M.) janus* Carpenter, 1857. Extend distribution into the Golfo de California to Puertecitos, Baja California, Mexico (DuShane, 1962). Hinge and exterior of valve figured. Extend distribution north to San Diego, California (Myers & D'Attilio, 1979). Extend distribution south to Punta Mala, Manabí, Ecuador (Shasky, 1984). Include San Felipe, Baja California, México, in distribution (Gemmell, Myers & Hertz, 1987). Length: 63.8 mm (Draper, 1987). Include the Islas Galápagos, Ecuador, in distribution (Bernard,

McKinnell & Jamieson, 1991). Include Isla del Coco, Costa Rica, and L'île Clipperton [France] in distribution (Emerson, 1994). Include Islas Clarión and Socorro, Islas Revillagigedo, México, in distribution (Emerson, 1995). Extend distribution south to Islas Lobos de Tierra, Perú (Paredes & Cardoso, 1999).

- 164 *Isognomon* (*M.*) *recognitus* (Mabille, 1895). Include Isla Clarión, Islas Revillagigedo, México, in distribution (Strong & Hanna, 1930). As synonym, *Pedalion chemnitzianum* d'Orbigny, *auctt. non* d'Orbigny, 1846. Include Puertecitos, Baja California, México, in distribution (DuShane, 1962). As *I. recognitus*. Include Isla de Malpelo, Colombia, in distribution (Birkeland, Meyer, Stames & Buford, 1975). Reported from Isla del Coco, Costa Rica, as *Isognomon "quadrangularis"* by Emerson (1978). As *I. quadratus*. Distribution: 2°S-26°N, including the Islas Galápagos, Ecuador (Bernard, 1983a). Include San Felipe, Baja California, México, in distribution (Gemmell, Myers & Hertz, 1987). As *I. recognitus*. Synonym: *Isognomon quadratus* (Anton, 1837), *non* Sowerby, 1835 (Coan, pers. comm., 1991). As *I. quadratus*. Include L'île Clipperton [France] in distribution (Bernard, McKinnell & Jamieson, 1991). As *I. recognitus* (Mabille, 1895) (Coan & Scott, 1997). Synonyms: *Perna quadratus* Anton, 1837, *non* Sowerby I, 1825. *P. quadrangularis* Reeve *auctt.*, ?*non* Reeve, 1858; *Ostrea legumen* Gmelin, *auctt.*, *non* Gmelin, 1791. Extend distribution north to Newport Bay, California (Coan, Valentich Scott & Bernard, 2000).

Family MALLEIDAE

Genus *Malleus* Lamarck, 1799

Subgenus *Malvufundus* Gregorio, 1885

- 165 *Malleus* (*M.*) *regulus* (Forskål, 1775). As *Fundella caudeana* d'Orbigny, 1846. Include Isla Clarión, Islas Revillagigedo, México, in distribution (Strong & Hanna, 1930). Synonyms: *Vulsella nuttalli* Conrad, 1837; *Avicula candeana* d'Orbigny, 1846; *Malleus rufipunctatus* Reeve, 1858 [165]; *M. tigrinus* Reeve, 1858; *M. panamensis* Mörch, 1861; *M. obvolatus* de Folin, 1867. Cosmopolitan in warm water 9°N-23°N (Bernard, 1983a). Include the Islas Galápagos, Ecuador, in distribution (Finet, 1985). As *Malleus rufipunctatus*. Include Isla del

Coco, Costa Rica, in distribution (Shasky, 1986a). Figured (Shasky, 1986b).

Suborder **PINNINA** Waller, 1978

Superfamily PINNOIDEA

Family PINNIDAE

Genus *Pinna* Linnaeus, 1758

- 156 *Pinna rugosa* Sowerby, 1835. Extend distribution north to Puertecitos, Baja California, México (DuShane, 1962). Add L'île Clipperton [France] and south to Salinas, Ecuador, to distribution (Salvat & Salvat, 1972). Add Islas Galápagos, Ecuador, to distribution (Finet, 1987). Extend distribution north to near the head of the Golfo de California at San Felipe, Baja California, México (Gemmell, Myers & Hertz, 1987).

Genus *Atrina* Gray, 1842

Subgenus *Servatrina* Iredale, 1939

Add subgenus (Coan, Valentich Scott & Bernard, 2000).

- 157 *Atrina* (*S.*) *maura* (Sowerby, 1835). Include Puertecitos, Baja California, México, in distribution (DuShane, 1962). Add synonym: ?*Pinna cumingii* Hanley, 1858 (Keen & Coan, 1975). Length: 422 mm (Draper, 1987).
- 158 *Atrina* (*S.*) *oldroydii* Dall, 1901. Length: 231 mm (Draper, 1987). Size: 256.3 mm (Hutsell, Hutsell & Pisor, 1997).
- 159 *Atrina* (*S.*) *texta* Hertlein, Hanna & Strong in Hertlein & Strong, 1943. A single specimen was found north of Santa Barbara, California (Coan & Scott, 1997). Include Guaymas, Sonora, México, in distribution (Coan, Valentich Scott & Bernard, 2000).
- 160 *Atrina* (*S.*) *tuberculosa* (Sowerby, 1835). Include off Roca Consag, in the upper Golfo de California, México, to distribution (DuShane & Brennan, 1969). Considered a synonym of *Atrina maura* (Sowerby, 1835) by some authors, notably Winckworth and Fischer-Piette (Keen & Coan, 1975). Bernard (1983a) treats *A. tuberculosa* as a valid species with a distribution from 5°S to 28°N, including the Islas Galápagos, Ecuador. Occurrence in the Islas Galápagos doubtful (Finet, 1985). Include San Felipe, Baja California, México, in distribution (Gemmell, Myers & Hertz,

1987). Galápagos distribution restated. Include Isla del Coco, Costa Rica, in distribution (Bernard, McKinnell & Jamieson, 1991). Size: 266 mm (Hutsell, Hutsell & Pisor, 1997).

Genus *Streptopinna* von Martens, 1880

- *Streptopinna saccata* (Linnaeus, 1758). Synonym: *Pinna nuttalli* Conrad, 1837. Height: 235 mm. Distribution: throughout the Indo-West Pacific. Depth: 1-2 m (Kay, 1979). Extend distribution to include Isla del Coco, Costa Rica. Also found from East Africa to eastern Polynesia (Shasky, 1987).

Order LIMOIDA
Superfamily LIMOIDEA
Family LIMIDAE

Genus *Lima* Bruguière, 1797

- 214 *Lima tetrica* Gould, 1851. Include the Islas Galápagos, Ecuador, in distribution (Bernard, 1983a). Length: 74.3 mm (Draper, 1987). Include Bahía Willard, Baja California, México, in distribution. Intertidal zone (Gemmell, Myers & Hertz, 1987). Off Bahía San Carlos, Sonora, México. Depth: intertidal zone to 35 m (F. & L. Poorman, 1988). Include Isla del Coco, Costa Rica, in distribution (Bernard, McKinnell & Jamieson, 1991). Size: 83 mm (Hutsell, Hutsell & Pisor, 1997).

Subgenus *Acesta* H. & A. Adams, 1858

- 215 *Lima (A.) agassizii* Dall, 1902. Delete here. As a synonym. See *Acesta (A.) patagonica* (Dall, 1902) [215].
216 *Lima (A.) diomedae* (Dall, 1908). Delete here. Genus changed. See *Acesta (A.) diomedae* [216].

Subgenus *Limaria* Link, 1807

- 217 *Lima (L.) hemphilli* Hertlein & Strong, 1946. Delete here. Genus changed. See *Limaria hemphilli* [217].

Subgenus *Limatula* Wood, 1839

- 218 *Lima (L.) similis* Dall, 1908. Delete here. Genus changed. See *Limatula (L.) similis* [218].

Subgenus *Promantellum* Iredale, 1939

- 219 *Lima (P.) pacifica* d'Orbigny, 1846. Delete here. Genus changed. See *Limaria pacifica* [219].

Subgenus *Submantellum*
Olsson & Harbison, 1953

- 220 *Lima (S.) orbignyi* Lamy, 1930. Delete here. Genus changed. See *Limaria orbignyi* [220].

Genus *Acesta* H. & A. Adams, 1858
Raised from subgenus (Bernard, 1983a; Moore, 1987).

Subgenus *Acesta*, s. s.

- 216 *Acesta (A.) diomedae* (Dall, 1908). Genus changed from *Lima* (Bernard, 1983a).
215 *Acesta (A.) patagonica* (Dall, 1902). Synonym: *Lima agassizii* Dall, 1902 [215]. Genus changed from *Lima*. Distribution: 14°S-53°S except for a single valve from Bahía de Panamá which is probably a misplaced specimen (Bernard, 1983a). As *L. agassizii*. Extend distribution north to the Guaymas Basin (27°23'N), Golfo de California, México (Luke, 1995).

Genus *Limaria* Link, 1807
Raised from subgenus. Synonyms: *Promantellum* Iredale, 1939; *Submantellum* Olsson & Harbison, 1953 (Vokes, 1973).

- 217 *Limaria hemphilli* (Hertlein & Strong, 1946). Extend distribution into the Golfo de California to Puertecitos, Baja California, México (DuShane, 1962). Extend distribution south to Tumbes, Perú (Peña, 1971). Shell figured (Gemmell, Myers & Hertz, 1981). Length: 37 mm (Draper, 1987). Add synonym: *Lima orientalis* A. Adams & Reeve, *autt.*, non A. Adams & Reeve, 1850 (Coan, Valentich Scott & Bernard, 2000).
220 *Limaria orbignyi* (Lamy, 1930). Shell figured (Gemmell, Myers & Hertz, 1981). Include the Islas Galápagos, Ecuador, in distribution (Bernard, 1983a). Length: 32.2 mm (Draper, 1987). Occurrence in the Islas Galápagos doubtful (Finet, 1985). Synonym: *Lima angulata* G. B. Sowerby II, 1843, non Münster, 1841 (Coan, Valentich Scott & Bernard, 2000).
219 *Limaria pacifica* (d'Orbigny, 1846). Include the

Islas Galápagos, Ecuador, in distribution (Bernard, 1983a). Length: 32.5 mm (Draper, 1987). Include Isla del Coco, Costa Rica, in distribution (Bernard, McKinnell & Jamieson, 1991).

Genus *Limatula* Wood, 1839

Raised from subgenus (Abbott, 1974).

Subgenus *Limatula* s. s.

- *Limatula* (*L.*) *saturna* F.R. Bernard, 1978. Synonyms: *Limatula californica* Bernard, 1988; *L. macleani* Bernard, 1988; *Pecten subauriculatus* Montagu, *autt.*, non Montagu, 1808. Height: 16 mm. Distribution: Albatross Bank, Kodiak Island, Alaska, to Cabo San Lucas, Baja California Sur, México. Depth: 30 to 675 m (Valentich Scott, 1998).
- 218 *Limatula* (*L.*) *similaris* (Dall, 1908). Distribution: 9°S-28°N (Bernard, 1983a). Extend distribution across the Golfo de California to Bahía San Carlos, Sonora, México (F. & L. Poorman, 1988). Include Isla del Coco, Costa Rica, in distribution (Bernard, McKinnell & Jamieson, 1991). Include Rocas Alijos, México, in distribution. Depth: 90 m (McLean & Coan, 1996). Shell figured as a holotype in Keen (1971) was possibly a syntype (Kabat, 1996). Extend distribution north to southern California (Coan & Scott, 1997). Length: 9.0 mm (Hutsell, Hutsell & Pisor, 1999). Extend distribution north to Santa Cruz Island, California (Coan, Valentich Scott & Bernard, 2000).

Order **OSTREOIDA** Férussac, 1822

Suborder **OSTREINA** Férussac, 1822

Superfamily **OSTREOIDEA**

Classification follows Harry (1985). Complete synonymies for species were not given by Harry. Morphological and anatomical keys to the oysters of México (Castillo Rodríguez & García-Cubas, 1987). Only two families within the Ostreoidae (Coan, Valentich Scott & Bernard, 2000).

Family **OSTREIDAE**

Subfamily **OSTREINAE** Rafinesque, 1815

Tribe **OSTREINI** Rafinesque, 1815
(Harry, 1985)

Genus *Ostrea* Linnaeus, 1758

Synonym: *Ostreola* Monterosato, 1884 (Coan &

Scott, 1997). Add synonyms: *Monoeciostrea* Orton, 1926; *Planostrea* Harry, 1985 (Coan, Valentich Scott & Bernard, 2000).

- 167 *Ostrea angelica* Rochebrune, 1895. Include Puertecitos, Baja California, México, in distribution (DuShane, 1962). Include the Guaymas, Sonora, México, area in distribution (DuShane & Poorman, 1967). Extend distribution south to Pimentel, Perú (Peña, 1971). Delete here. Genus changed. See *Myrakeena angelica* [167].
- 168 *Ostrea columbiensis* Hanley, 1846. Delete here. Genus changed. See *Crassostrea columbiensis* [168].
- 169 *Ostrea conchaphila* Carpenter, 1857. Extend distribution into the Golfo de California, México, to off Roca Consag (DuShane & Brennan, 1969). As *Ostrea lurida* Carpenter, 1864. Synonyms: *Ostrea lurida laticaudata* Carpenter, 1864, ex Nuttall MS; *O. l. rufoides* Carpenter, 1864; *O. l. expansa* Carpenter, 1864, non Sowerby, 1819 (Bernard, 1983a). As *Ostreola conchaphila*. Synonym: *Ostrea lurida* Carpenter, 1864. Distribution: Alaska to Panamá. Shallow subtidal zone to a few meters depth (Harry, 1985). Include off Bahía San Carlos, Sonora, México, in distribution. Depth: 100 m (F. & L. Poorman, 1988). As *Ostrea conchaphila* by Coan & Scott (1997). Extend distribution south to Puerto Pizarro, Tumbes, Perú (Paredes & Cardoso, 1999). Add synonym: *Monoeciostrea vancouverensis* Orton, 1928. Distribution: Sitka, Alaska, to Panamá (Coan, Valentich Scott & Bernard, 2000).
- 170 *Ostrea corteziensis* Hertlein, 1951. Delete here. Genus changed. See *Crassostrea corteziensis* [170].
- 171 *Ostrea fisheri* Dall, 1914. Delete here. As a synonym. See *Hyotissa hyotis* (Linnaeus, 1758) [171].
- 172 *Ostrea iridescens* Hanley, 1854. Delete here. As a synonym. See *Crassostrea prismatica* (Gray, 1825) [172].
- 173 *Ostrea megodon* Hanley, 1846. Extend distribution into the Golfo de California, México, to Roca Consag (DuShane & Brennan, 1969). Add synonyms: *Ostrea gallus* Valenciennes, 1846; *O. cerrosensis* Gabb, 1866 (Keen & Coan, 1975). Delete here. Genus changed. See *Undulostrea megodon* [173].
- 174 *Ostrea palmula* Carpenter, 1857. Delete here.

Genus changed. See *Crassostrea palmula* [174].

- 175 *Ostrea tubulifera* Dall, 1914. Delete. Probably not a valid Panamic species; type may be from another province (Bernard, 1983a). Extend distribution south to Isla Salango, Ecuador (Shasky, 1984).

Tribe **UNDULOSTREINI** Harry, 1985

Genus *Undulostrea* Harry, 1985

- 173 *Undulostrea megodon* (Hanley, 1846). Distribution: Laguna San Ignacio, west coast of Baja California Sur, México; Golfo de California to Perú. Low intertidal to several meters depth: attached to shells (Harry, 1985). Length: 100.6 mm (Draper, 1987). Include the Islas Galápagos, Ecuador, in distribution (Bernard, McKinnell & Jamieson, 1991).

Subfamily **CRASSOSTREINAE**

Scarlato & Starobogotov, 1979

Genus *Crassostrea* Sacco, 1897

Synonyms: *Saccostrea* Dollfus & Dautzenberg, 1920; *Striostrea* Vialov, 1936, and others, making a single valid genus in the subfamily. Delete Tribes *Striostreini* and *Crassostreini* Harry, 1985 (Lawrence, 1995).

- 168 *Crassostrea columbiensis* (Hanley, 1846). Synonym: *Ostrea tulipa* Sowerby, 1871 (Bernard, 1983a). As *Crassostrea*. Synonym: *Ostrea corteziensis* Hertlein, 1951 [170]. Distribution: Golfo de California to Ecuador (Harry, 1985). Include the Islas Galápagos, Ecuador, in distribution (Bernard, McKinnell & Jamieson, 1991).
- 170 *Crassostrea corteziensis* (Hertlein, 1951). Comparative study of karyotypes of *C. corteziensis* with *Crassostrea virginica* (Gmelin, 1791) from Tabasco, México, shows that the two species can be considered to be karyotypic races (Rodríguez-Romero, Laguarda-Figueras & Uribe-Alcocer, 1979). Delete here. As a synonym. See *Crassostrea columbiensis* (Hanley, 1846) [168].
- 174 *Crassostrea palmula* (Carpenter, 1857). Include Isla del Coco, Costa Rica, in distribution (Bakus, 1975). As *Saccostrea*. Distribution: Laguna San Ignacio, west coast of Baja California Sur, México, to Panamá and the Islas Galápagos, Ecuador.

Intertidal, attached to mangroves or rocks (Harry, 1985). As *Crassostrea* by Lawrence (1995).

- 172 *Crassostrea prismatica* (Gray, 1825). Include Isla de Malpelo, Colombia, in distribution (Birkeland, et. al, 1975). Synonyms: *Ostrea puelchana* d'Orbigny, *auclt.*, *non* d'Orbigny, 1841; *O. iridescens* Hanley, 1854 [172]; *Ostrea virginica californica* Marcou, 1858 (Bernard, 1983a). As *Striostrea*. Subtidal zone, attached to non-calcareous rock (Harry, 1985). Include Isla del Coco, Costa Rica, in distribution (Montoya, 1983). Include the Islas Galápagos, Ecuador, in distribution (Bernard, McKinnell & Jamieson, 1991). As *Crassostrea* by Lawrence (1995).

Subfamily **LOPHINAE** Vialov, 1936

Tribe **LOPHINI** Vialov, 1936
(Harry, 1985)

Genus *Dendostrea* Swainson, 1835

- *Dendostrea folium* (Linnaeus, 1758). Synonyms: *Mytilus frons* Linnaeus, 1758; *M. cristagalli* Linnaeus, 1758; *Ostrea serra* Dall, 1914, *non* Lamarck, 1899; *O. dalli* Lamy, 1930; *O. (Pretostrea) bresia* Iredale, 1939. Circumtropical, including Bahía de Panamá, Panamá (Bernard 1983a). Extend distribution to Isla del Coco, Costa Rica, and Cabo Pulmo, Baja California Sur, México. Figured (Shasky, 1986b). Include the Islas Galápagos, Ecuador, in distribution (Bernard, McKinnell & Jamieson, 1991).
- *Dendostrea mexicanum* (Sowerby, 1871). Distribution: Baja California, México. Found in shallow subtidal zones, on gorgonians, and stony corals (Harry, 1985).

Tribe **MYRAKEENINI** Harry, 1985

Genus *Myrakeena* Harry, 1985

- 167 *Myrakeena angelica* (Rochebrune, 1895). Figured. Distribution limited to the Golfo de California, México. Low tide zone and slightly deeper (Harry, 1985). Extend distribution north to San Felipe, Baja California, México (Gemmell, Myers & Hertz, 1987). Extend distribution northwest to include Rocas Alijos, México. Depth: 20 to 50 m (McLean & Coan, 1996).

Family **GRYPHAEIDAE** Vialov, 1936

Subfamily **PYCNODONTEINAE**

Stenzel, 1959

Tribe **HYOTISSINI** Harry, 1985

Genus *Hyotissa* Stenzel, 1971

- 171 *Hyotissa hyotis* (Linnaeus, 1758). Include Isla de Malpelo, Colombia, in distribution (Birkeland, Meyer, Stames & Buford, 1975). As *Hyotissa hyotis*. Synonym: *Ostrea fisheri* Dall, 1914 [171], and numerous junior synonyms in west Indo-Pacific populations. Distribution: Panamic Province; west Pacific (Harry, 1985). Occurrence in the Islas Galápagos doubtful (Finet, 1985). Distribution: Golfo de California, México, to Ecuador, and the Islas Galápagos; east Africa and Madagascar to southern Japan (Moore, 1987). Length: 211.6 mm (Wagner & Abbott, 1988). Delete Galápagos distribution (Bernard, McKinnell & Jamieson, 1991). Include L'île Clipperton [France] in distribution (Emerson, 1994).
- *Hyotissa solida* (Sowerby, 1871) Include Isla del Coco, Costa Rica; Isla de Malpelo, Colombia, and the Islas Galápagos, Ecuador, in distribution (Bernard, McKinnell & Jamieson, 1991).

Genus *Parahyotissa* Harry, 1985

Subgenus *Pliohyotissa* Harry, 1985

- *Parahyotissa (P.) quercinus* (Sowerby, 1871). Figured (Harry 1985). Distribution: San Felipe, Baja California, south on the west side of the Golfo de California to Cabo San Lucas, Baja California Sur; Puerto Vallarta, Jalisco; Manzanillo, Colima, on the mainland of México (Gemmell, Hertz & Myers, 1985). Extend distribution south to the Islas Galápagos, Ecuador (Kaiser, 1997).

Superfamily **DIMYOIDEA**

P. H. Fischer I, 1886

Family **DIMYIDAE**

Genus *Dimya* Rouault, 1850

- 205 *Dimya californiana* Berry, 1936. Redescription. Hinge figured (Myers & D'Attilio, 1980). Synonym: *Dimya coralliotis* Berry, 1944 (Coan & Scott, 1997).

Superfamily **PLICATULOIDEA**

Watson, 1930

Family **PLICATULIDAE**

Genus *Plicatula* Lamarck, 1801

- 206 *Plicatula anomioides* Keen, 1958. Extend distribution north to Puertecitos, Baja California, México (DuShane, 1962). Extend distribution north to off Roca Consag, Golfo de California, México (DuShane & Brennan, 1969). Extend distribution south to La Libertad, El Salvador (Hernández, 1979). Extend distribution to include Bahía Willard, Baja California, México (Gemmell, Myers & Hertz, 1987).
- 207 *Plicatula inezana* Durham, 1950. Extend distribution north to Puertecitos, Baja California, México (DuShane, 1969). Depth: 45 to 140 m (Bernard, 1983a). Length: 52.1 mm (Draper, 1987). Extend distribution across the Golfo de California to Bahía San Carlos, Sonora, México (F. & L. Poorman, 1988). Extend distribution south to Bahía Cocos, Guanacaste, Costa Rica (Skoglund, 1990a).
- 208 *Plicatula penicillata* Carpenter, 1857. Extend distribution north to near Santa Rosalia, Baja California Sur, México (Draper, 1972). Intertidal zone. Include the Islas Galápagos, Ecuador, in distribution (Bernard, 1983a). Extend distribution north to Bahía de los Angeles, Baja California, México (F. & L. Poorman, 1978). Occurrence in the Islas Galápagos doubtful (Finet, 1985). Extend distribution across the Golfo de California to Bahía San Carlos, Sonora, México. Depth: 20 to 80 m (F. & L. Poorman, 1988). Galápagos distribution restated (Bernard, McKinnell & Jamieson, 1991).
- 209 *Plicatula spondylopsis* Rochebrune, 1895. Include Puertecitos, Baja California, México, in distribution (DuShane, 1962). Include the Islas Galápagos, Ecuador, in distribution (Bernard, 1983a). Occurrence in the Islas Galápagos doubtful (Finet, 1985). Include Isla del Coco, Costa Rica, in distribution. Galápagos distribution restated (Bernard, McKinnell & Jamieson, 1991).

Suborder **PECTININA** Waller, 1978

Superfamily **PECTINOIDEA**

Family **PECTINIDAE**

Subfamily **PECTININAE**

Genus *Pecten* Müller, 1776

Subgenus *Flabellipecten* Sacco, 1897

- *Pecten* (*F.*) *berryi* F. R. Bernard, 1983a. Synonym: *Pecten lunaris* Berry, 1963, non Römer, 1839 [176] (Bernard, 1983a). Delete here. As a synonym. See *Pecten stillmani* Dijkstra, 1998.
- 176 *Pecten* (*F.*) *lunaris* Berry, 1963. Holotype figured (C. Hertz, 1984). Extend distribution south to Nicaragua (Montoya, López & López, 1987). Include off Bahía San Carlos, Sonora, México, in distribution. Depth: 100 m (F. & L. Poorman, 1988). Delete here. As a synonym of *Pecten berryi* by Bernard (1983a) and of *Pecten stillmani* Dijkstra, 1998.
- *Pecten* (*F.*) *stillmani* Dijkstra, 1998. Synonyms: *Pecten lunaris* Berry, 1963, non Römer, 1839 [176]; *Pecten berryi* Bernard, 1983a, non Stephenson, 1923 (Dijkstra, 1998).
- 177 *Pecten* (*F.*) *sericeus* (Hinds, 1845). Delete here. Genus changed. See *Oppenheimiopecten sericeus* [177].

Subgenus *Oppenheimiopecten*
von Teppner, 1922

- 178 *Pecten* (*O.*) *galapagensis* Grau, 1959. Delete here. Genus changed. See *Oppenheimiopecten galapagensis* [178].
- 179 *Pecten* (*O.*) *hancocki* Grau, 1959. Delete here. Genus changed. See *Oppenheimiopecten hancocki* [179].
- 180 *Pecten* (*O.*) *perulus* Olsson, 1961. Delete here. Genus changed. See *Oppenheimiopecten perulus* [180].
- 181 *Pecten* (*O.*) *vogdesi* Arnold, 1906. Delete here. Genus changed. See *Euvola vogdesi* [181].

Genus *Euvola* Dall, 1898

Raised from subgenus of *Pecten* by Waller (1991)

- *Euvola diegensis* (Dall, 1898). As *Pecten diegensis*. Diameter: 100 mm. Depth: 30 m. Distribution: Bodega Bay, California, to Cabo San Lucas, Baja California Sur, México (McLean, 1978). Distribution: 23°N-38°N. Depth: 10 to 375 m (Bernard, 1983a). As *Euvola diegensis* by Waller (1991). Include Rocas Alijos, México, in distribution. Depth: 90 m (McLean & Coan, 1996). Size: 129.9 mm (Hutsell, Hutsell & Pisor, 1997). Synonyms: *Pecten floridus* Hinds, 1845, non *Ostrea*

florida Gmelin, 1791; *P. laqueatus* G. B. Sowerby II, auctt., non G. B. Sowerby II, 1842 (Coan, Valentich Scott & Bernard, 2000).

- 181 *Euvola vogdesi* (Arnold, 1906). Distribution: 1°S-28°N (Bernard, 1983a). As genus *Oppenheimiopecten* by Moore (1984). Length: 111 mm (Wagner & Abbott, 1990). As *Euvola vogdesi* by Waller (1991). Include Isla del Coco, Costa Rica, in distribution (Bernard, McKinnell & Jamieson, 1991). Extend distribution north to southern California (Coan & Scott, 1997). Synonym: *Pecten heimi* Hertlein, 1925 (Coan, Valentich Scott & Bernard, 2000).

Genus *Oppenheimiopecten*

Von Teppner, 1922

Raised from a subgenus (Moore, 1984).

- 178 *Oppenheimiopecten galapagensis* (Grau, 1959).
- 179 *Oppenheimiopecten hancocki* (Grau, 1959). Extend distribution south to the Islas Galápagos, Ecuador (Finet, 1985). Size: 62.2 mm (Hutsell, Hutsell & Pisor, 1997).
- 180 *Oppenheimiopecten perulus* (Olsson, 1961). Extend distribution north to Nicaragua (Montoya, López & López, 1987). Length: 36.6 mm (Wagner & Abbott, 1990). Include Isla del Coco, Costa Rica, in distribution (Bernard, McKinnell & Jamieson, 1991). Include Isla Socorro, Islas Revillagigedo, México, in distribution (Emerson, 1995). Size: 38.5 mm (Hutsell, Hutsell & Pisor, 1997).
- 177 *Oppenheimiopecten sericeus* (Hinds, 1845). Include Isla del Coco, Costa Rica, in distribution (Montoya, 1983). Length: 108 mm (Draper, 1987). Depth: 183 m (Skoglund, 1988). Include the Islas Revillagigedo, México, in distribution (Bernard, McKinnell & Jamieson, 1991).

Subfamily CAMPTONECTINAE

Habe, 1977

Genus *Delectopecten* Stewart, 1930

As a subgenus (Rombouts, 1991), and as a genus (Coan & Scott, 1997).

- 192 *Delectopecten vancouverensis* (Whiteaves, 1893). Synonyms: *Pecten (Pseudamussium) randolphi tillamookensis* Arnold, 1906; *P. (Pseudamussium) arces* Dall, 1913; *P. whiteavesi* Orcutt, 1915, nom.

nud. (Bernard, 1983a). Delete *Pecten randolphi tillamookensis* (Arnold, 1906) and *P. arces* Dall, 1913, as synonyms (Rombouts, 1991). Synonym: *Delectopecten randolphi* (Dall, 1897) [192] (Coan & Scott, 1997). Add synonym: *Pecten randolphi tillamookensis* (Arnold, 1906); *P. arces* Dall, 1913; *Cyclopecten argenteus* Bernard, 1978. Distribution: Bristol Bay, Alaska, to Isla Cedros, Baja California, and off Guaymas, Sonora, México. Depth: 45-2000 m (Valentich Scott, 1998). Add synonym: *Pecten vancouverensis fernandoensis* Hertlein, 1925. Add Kamchatka to northern Japan to distribution (Coan, Valentich Scott & Bernard, 2000).

- 193 *Delectopecten vitreus* (Gmelin, 1791). As *Cyclopecten*. Delete. Distribution (10°S-52°S) is not within the Panamic Province (Bernard, 1983a).
 194 *Delectopecten zacae* (Hertlein, 1935). Extend distribution northwest to Rocas Alijos, México. Depth: 90 m (McLean & Coan, 1996).

Genus *Ciclopecten* Seguenza, 1877
 Synonym: *Hyalopecten* by Coan, Valentich Scott & Bernard (2000).

- *Ciclopecten neoceanicus* (Dall, 1908). Height: 12 mm. Holotype figured. Islas Galápagos, Ecuador (Grau, 1959). Distribution: Bahía de Panamá to the Islas Galápagos, Ecuador. Depth: 3270 to 3670 m (Knudsen, 1970). As genus *Hyalopecten* by Bernard (1983a), *Cyclopecten* (H.) by Rombouts (1991), and *Hyalopecten* by Coan & Scott (1997). Extend distribution north to west of Patton Escarpment (31°12'N, 119°37'W). Depth: 3600 to 3950 m (Luke, 1995). Change genus. Add off Oregon and northern Perú to distribution. Depth: 3500 to 4100 m (Coan, Valentich Scott & Bernard, 2000).

Subfamily CHLAMYDINAE

von Treppner, 1922

Tribe CHLAMYDINI von Treppner, 1922
 (Waller, 1993)

Genus *Chlamys* Röding, 1798

Subgenus *Chlamys*, s. s.

- *Chlamys* (C.) *incantata* Hertlein, 1972. Height: 45 mm. Islas Galápagos, Ecuador. Depth: 200 m (Hertlein, 1972). Delete here. Genus changed. See

Veprichlamys.

- 183 *Chlamys* (C.) *lowei* (Hertlein, 1935). Include off Bahía San Carlos, Sonora, México, in distribution (DuShane & Poorman, 1967). Height: 22.9 mm (Draper, 1987). Delete here. As a synonym. See *Spathochlamys vestalis* (Reeve, 1853).

Genus *Veprichlamys* Iredale, 1929

- *Veprichlamys incantata* (Hertlein, 1972). Genus changed from *Chlamys* by Waller (1993).

Tribe AEQUIPECTINI Nordsieck, 1969

Genus *Argopecten* Monterosato, 1889

As a subgenus of *Chlamys* (Hertlein & Grant, 1972). As a genus (Abbott, 1974; Bernard, 1983a; Coan & Scott, 1997).

- 182 *Argopecten circularis* (Sowerby, 1835). Add synonyms: *Pecten pomatia* Valenciennes, 1846; *P. ventricosus aequisulcatus* Carpenter, 1864; *P. (Plagiectenium) subventricosus* Dall, 1898; *P. compactus* Dall, 1898; *P. newsomi* Arnold, 1903. Include the Islas Galápagos, Ecuador, in distribution (Bernard, 1983a). Length: 106 mm (Wagner & Abbott, 1990). Delete. Holotype of *A. circularis* is actually *A. irradians concentricus* (Say, 1822) from the western Atlantic. See *Argopecten ventricosus* (Sowerby, 1842), for Panamic Province species previously known as *A. circularis* (Waller, 1991, 1995).
 ---- *Argopecten purpuratus* (Lamarck, 1819). Length: 120 mm. Distribution: Corinto, Nicaragua, to Perú. Depth: 9 to 18 m (Grau, 1959). Limit distribution from Bahía Sechura and Paita, Perú, to Coquimbo, Chile (Marincovich, 1973). Size: 159.3 mm (Hutsell, Hutsell & Pisor, 1997).
 ---- *Argopecten ventricosus* (G. B. Sowerby II, 1842). As *A. circularis*. Include Isla del Coco, Costa Rica, and the Islas Revillagigedo, México, in distribution (Bernard, McKinnell & Jamieson, 1991). As *A. ventricosus*. *Argopecten circularis* is not Panamic (Waller, 1991). Synonym: *Pecten tumidus* Sowerby I, 1835. Lectotype designated and figured (Waller, 1995). Size: 106 mm (Hutsell, Hutsell & Pisor, 1997). Add synonym: *Pecten inca* d'Orbigny, 1847 (Dijkstra, 1998). Synonyms: *Pecten tumidus* G. B. Sowerby I, 1835, non Turton, 1822; *P. ventricosus* G. B. Sowerby II, 1842; *P. pomatea* Valenciennes,

1846; *P. inca* d'Orbigny, 1846; *P. solidulus* Reeve, 1853; *P. ventricosus aequisulcatus* Carpenter, 1864; *P. subventricosus* Dall, 1898; *P. compactus* Dall, 1898; *P. newsomi* R. Arnold, 1903; *P. calli* Hertlein, 1925; *P. fililextus* C. C. Li, 1930; *P. circularis* G. B. Sowerby I *auctt.*, non G. B. Sowerby I, 1835. Distribution: Monterey, California, throughout the Golfo de California, México, south to Bayovar, Perú. Depth: 1 to 55 m (Coan, Valentich Scott & Bernard, 2000).

Genus *Leptopecten* Verrill, 1897

- 195 *Leptopecten biolleyi* (Hertlein & Strong, 1946). Include the Golfo de Guayaquil, Ecuador, in distribution (Cruz-P., 1983). Include Isla de la Plata, Ecuador, in distribution (Shasky, 1984). Size: 12 mm (Hutsell, Hutsell & Pisor, 1999).
- 196 *Leptopecten camerella* (Berry, 1968). Holotype figured (C. Hertz, 1984). Extend distribution north in the Golfo de California to off Roca Consag (Hendrickx & Toledano Granados, 1994). Include Rocas Alijos, México, in distribution. Depth: 90 m (McLean & Coan, 1996).
- 197 *Leptopecten (L.) euterpes* (Berry, 1957). Holotype figured (C. Hertz, 1984).
- *Leptopecten latiaurata* (Conrad, 1837). Distribution: Point Reyes, California, to Cabo San Lucas, Baja California Sur, México. Depth: subtidal to 229 m (Hertlein & Grant, 1972). Genus changed from *Chlamys*. Synonyms: *P. monotimeris* Conrad, 1837; *P. tunica* Philippi, 1844; *P. latiauritus fucicolus* Dall, 1898; *P. (Chlamys) latiauritus fragilis* Arnold, 1903, non *P. fragilis* DeFrance, 1825; *P. (Chlamys) latiauritus bellilamellatus* Arnold, 1903; *P. (Chlamys) latiauritus cerritensis* Arnold, 1906; *P. (Chlamys) latiauritus delosi* Arnold, 1906. Range 23°N-38°N (Bernard, 1983a). Extend distribution to include the Golfo de California, México. Depth: intertidal zone to 250 m (Valentich Scott, 1998).
- 198 *Leptopecten palmeri* (Dall, 1897). Include off Roca Consag, Golfo de California, México, in distribution (DuShane & Brennan, 1969). Include San Felipe, Baja California, México, in distribution (Gemmell, Myers & Hertz, 1987). Include off Bahía San Carlos, Sonora, México, in distribution. Depth: 100 m (F. & L. Poorman, 1988). Length: 71 mm (Wagner & Abbott, 1990).
- 199 *Leptopecten velero* (Hertlein & Strong, 1946).

Extend distribution across the Golfo de California to off Bahía San Carlos, Sonora, México. Depth: 100 m (F. & L. Poorman, 1988). Include the Islas Galápagos, Ecuador, in distribution (Bernard, McKinnell & Jamieson, 1991).

Genus *Pacipecten* Olsson, 1961

Raised from subgenus (Moore, 1984).

- 200 *Pacipecten tumbezensis* (d'Orbigny, 1846). Length: 45 mm (Draper, 1987).

Tribe **CRASSADOMINI**

Waller, 1993

Genus *Crassadoma* Bernard, 1986

- *Crassadoma gigantea* (Gray, 1825). Synonyms: *Hinnita poulsoni* Conrad, 1834; *Pecten (Chlamys) multirugosus* Gale, 1928. Distribution: Aleutian Islands to Bahía Magdalena, Baja California Sur, México. Depth: high tide zone to 55 m (Hertlein & Grant, 1972). As *Hinnites multirugosus* (Gale, 1928), with *H. giganteus* Gray, 1825, as a synonym (Abbott, 1974). *Pecten (Chlamys) multirugosus* Gale, 1928, as a junior synonym of *Hinnites giganteus* (Gray, 1825) (Roth & Coan, 1978). Synonyms: *Hinnites crassa* Conrad, 1857; *Pecten (Chlamys) multirugosus* Gale, 1928; *P. (C.) multirugosus crassiplicatus* Gale, 1928; *Hinnites benedicti* Adegoke, 1969. Distribution: 25°N-60°N. Depth: intertidal zone to 80 m (Bernard, 1983a). Genus changed from *Hinnites* by Bernard (1986). Length: 233 mm (Wagner & Abbott, 1990). Placed in new tribe. Delete *Hinnites benedicti* Adegoke, 1969, as a synonym. Juvenile shell figured. Extend distribution south to the Islas Revillagigedo, México (Waller, 1993). Distribution: Prince William Sound, Alaska, south to Bahía Magdalena, Baja California Sur, México. Depth: intertidal zone to 80 m (Coan, Valentich Scott & Bernard, 2000).

Tribe **MINACHLAMYDINI**

Waller, 1993

Genus *Spathochlamys*

Waller, 1993

- 183 *Spathochlamys vestalis* (Reeve, 1853). Include the

Islas Revillagigedo, México, in distribution (Bernard, McKinnell & Jamieson, 1991). Synonym: *Pecten* (*Chlamys*) *lowei* Hertlein, 1935 [183]. Lectotype figured. Depth: 9 to 183 m (Waller, 1993). Include Rocas Alijos, México, in distribution. Depth: 90 m (McLean & Coan, 1996). Size: 22.9 mm (Hutsell, Hutsell & Pisor, 1997). Include throughout the Golfo de California, México, in distribution (Coan, Valentich Scott & Bernard, 2000). Extend distribution south to Cabo Blanco, Piura, Perú (Mogollón, Peña Gonzáles & Béarez, 2000).

Tribe uncertain

Genus *Lyropecten* Conrad, 1862

- 201 *Lyropecten magnificus* (Sowerby, 1835). Restricted to the Islas Galápagos, Ecuador; not found on the mainland (Keen & Coan, 1975). As genus *Nodipecten* by Woodring (1982); Moore (1984). Length: 206 mm (Wagner & Abbott, 1990). As *Lyropecten*. Lectotype designated. Extend distribution to Porto Utria, Colombia. Depth: 10 to 30 m (Smith, 1991).

Genus *Nodipecten* Dall, 1898

Raised from subgenus (Woodring, 1982; Moore, 1984).

- *Nodipecten arthriticus* (Sowerby, 1853). Synonym: *Nodipecten subnodosus* (Sowerby, 1853), *auctt.*, in part. Length: 102 mm. Distribution: Islas Tres Marias, off Nayarit, México, to Paita, Perú. Not found in the Islas Galápagos, Ecuador (Smith, 1991). Size: 137 mm (Hutsell, Hutsell & Pisor, 1997). Extend distribution north to Isla San Marcos, Golfo de California, México (Hutsell, 1998).
- 202 *Nodipecten subnodosus* (Sowerby, 1835). Distribution confirmed to off Bahía San Carlos, Sonora, México (DuShane & Poorman, 1967). Include Isla del Coco, Costa Rica, in distribution (Montoya, 1983). Add synonym: *Pecten* (*Lyropecten*) *pitteri* Dall, 1912. Depth: intertidal zone to 110 m (Bernard, 1983a). Include the Islas Galápagos, Ecuador, in distribution (Finet, 1985). Include off Isla Salvatierra, Golfo de California, México, in distribution (Gemmell, Myers & Hertz, 1987). Extend distribution north to Isla Cedros, México (McPeak, 1988). Length: 224 mm (Wagner

& Abbott, 1990). Delete *P. (L.) pitteri* as a synonym. Lectotype designated. Distribution: Golfo de California and west coast of Baja California Sur as far north as Guerrero Negro and Isla Cedros, México. Anomalous occurrences in 1963 and 1967 off Santa Catalina Island, California; also from Isla Clarión, Islas Revillagigedo, México, and Isla del Coco, Costa Rica. Depth: intertidal zone to 110 m (Smith, 1991). Include the Islas Galápagos, Ecuador, in distribution (Finet, 1994b). Size: 226.5 mm (Hutsell, Hutsell & Pisor, 1997). Two dead specimens taken at San Clemente Island (32°50'N) (Hutsell, 2000).

Genus *Pseudamussium* Mörch, 1853

Subgenus *Peplum*

Bucquoy, Dautzenberg & Dollfus, 1889

- 204 *Pseudamussium (P.) fasciculatum* (Hinds, 1845). Extend distribution south to off Punta Picos, Perú (Alamo & Valdivieso, 1987). Extend distribution north to Bahía San Carlos, Sonora, México (F. & L. Poorman, 1988). Size: 40 mm (Hutsell, Hutsell & Pisor, 1999).

Family PROPEAMUSSIIDAE

R. T. Abbott, 1954

(Waller, 1971; Rombouts, 1991)

Genus *Propeamussium*

de Gregorio, 1884

- 203 *Propeamussium malpelsonium* (Dall, 1908). As a synonym of *P. meridionale* (E. A. Smith, 1885) (Knudsen, 1970). As a valid species. Distribution: Golfo de Panamá, Panamá, near west Colombia and north of Marquesas Islands in deep water. (Rombouts, 1991). Delete here. As a synonym. See *Propeamussium meridionale* (E. A. Smith, 1885).
- *Propeamussium meridionale* (E. A. Smith, 1885). Synonym: *Amusium (P.) malpelsonium* Dall, 1908 [203]. Length: 17 mm. Distribution: Golfo de Panamá; Pacific, Antarctic, and Indian Oceans. Depth: 1900-4820 m (Knudsen, 1970). Distribution does not include the Panamic Province (Rombouts, 1991). Distribution: Tuffs Abyssal Plain, Oregon, and Cortez Bank, California, to the Golfo de Panamá and Chile. Also in the Indian and western

Pacific Oceans, and near Antarctica. Depth: 1900 to 4882 m (Coan, Valentich Scott & Bernard, 2000).

Genus *Cyclopecten* Verrill, 1897

As family Propeamussiidae by Rombouts (1991); Coan & Scott (1997).

Subgenus *Cyclopecten*, s. l.

- 184 *Cyclopecten* (C.) *acutus* Grau, 1959. Extend distribution south to the Golfo de Guayaquil, Ecuador (Cruz-P., 1983).
- *Cyclopecten* (C.) *bistriatus* (Dall, 1916). Distribution: 23°N-46°N. Depth: 1100 to 1160 m (Bernard, 1983a). As subgenus *Delectopecten*. Distribution: southern California to Baja California, México (Rombouts, 1991). As *Cyclopecten* by Coan & Scott (1997). Distribution: Tillamook Bay, Oregon, to Cabo San Lucas, Baja California Sur, México; Sagami Bay, Japan. Depth: 900 to 2205 m (Coan, Valentich Scott & Bernard, 2000).
- 185 *Cyclopecten* (C.) *catalinensis* (Willett, 1931). Distribution: Santa Rosa Island, California, to Isla Cedros, Baja California, and in the Golfo de California as far north as Isla Tiburón, Sonora, México. Depth: 30 to 350 m (Coan, Valentich Scott & Bernard, 2000).
- 187 *Cyclopecten* (C.) *exquisitus* Grau, 1959. Include Isla del Coco, Costa Rica, in distribution (Montoya, 1983).
- *Cyclopecten* (C.) *grau*i Knudsen, 1970. Length: 18 mm. Known only from Bahía de Panamá, Panamá. Depth: 3270 to 3670 m (Knudsen, 1970).
- 188 *Cyclopecten* (C.) *incongruus* (Dall, 1916). Delete. Known only from the holotype from Isla Cedros, México (29°N), which is north of the Panamic Province (Bernard, 1983a). Extend distribution north to include Washington and off Oregon (Coan, Valentich Scott & Bernard, 2000).
- 189 *Cyclopecten* (C.) *liriope* (Dall, 1908). Shell figured in Keen (1971) as a holotype is actually a lectotype (Kabat, 1996).
- 191 *Cyclopecten* (C.) *polyleptus* (Dall, 1908). Genus changed from *Delectopecten*. Distribution: 0°-52°S. Depth: 550 to 650 m (Bernard, 1983a). Extend distribution north to Bahía San Carlos, Sonora, México. Depth to 35 m (F. & L. Poorman, 1988). As *Cyclopecten* (*Delectopecten*) by Rombouts (1991).

- 190 *Cyclopecten* (C.) *rotundus* (Dall, 1908). As *C. pernomus* (Hertlein, 1935) [190]. Include the Islas Galápagos, Ecuador, in distribution (Grau, 1959). Depth: 2 to 1720 m (Hertlein & Grant, 1972). Include the Islas Revillagigedo, México, in distribution (Bernard, McKinnell & Jamieson, 1991). Include Rocas Alijos, México, in distribution. Depth: 90 m (McLean & Coan, 1996). Synonym: *Cyclopecten pernomus* (Hertlein, 1935). Extend distribution north to California (Rombouts, 1991). Size: 7.3 mm (Hutsell, Hutsell & Pisor, 1999).

Family SPONDYLIDAE

Genus *Spondylus* Linnaeus, 1758

- 210 *Spondylus calcifer* Carpenter, 1857. Include Puertecitos, Baja California, México, in distribution (DuShane, 1962). Include Isla del Coco, Costa Rica, in distribution (Bakus, 1975). Depth: 2 to 55 m (Bernard, 1983a). Include San Felipe, Baja California, México, in distribution (Gemmell, Myers & Hertz, 1987). Length: 267 mm (Wagner & Abbott, 1990). Include the Islas Revillagigedo, México, in distribution (Bernard, McKinnell & Jamieson, 1991). Lectotype selected and figured. Synonyms: *Spondylus limbatus* Sowerby, *auctt.*, non Sowerby, 1847; *S. radula* Lamarck, *auctt.*, non Lamarck, 1806; *S. smithi* Fulton, 1915. Holotype of *Spondylus radula* Reeve, 1856, figured. Distribution: head of the Golfo de California, México, to Perú. Depth: intertidal zone to 18 m (Skoglund & Mulliner, 1996). Extend distribution northwest to include Rocas Alijos, México. Depth: 20 to 50 m (McLean & Coan, 1996).
- *Spondylus leucacanthus* Broderip, 1833. Valid species. Holotype figured. Synonyms: *Spondylus pictorum* Chemnitz, *auctt.*, non Schröter, 1786, ex Chemnitz MS; *S. princeps* Broderip, *auctt.*, non Broderip, 1833; *S. victoriae* Sowerby, *auctt.*, non Sowerby, 1859; *S. ursipes* Berry, 1959 (paratype figured). Length to 156 mm, not including spines. Distribution: Isla Cedros, on the Pacific side of Baja California and Bahía de los Angeles, Golfo de California, México, to Isla de la Plata (type locality), Ecuador. Depth: 25 to 90 m (Skoglund & Mulliner, 1996). Reproductive cycle figured (Villalejo-Fuerte & García-Domínguez, 1998).
- *Spondylus linguaefelis* Sowerby, 1847. Synonyms:

- Spondylus gloriosus* Dall, Bartsch & Rehder, 1938; *S. mimus* Dall, Bartsch & Rehder, 1938; *S. kauaiensis* Dall, Bartsch & Rehder, 1938 (Kay, 1979). Lamprell (1987) gives the distribution as the Solomon Islands, Hawaiian Islands, Philippine Islands and Australia, but fails to cite L'île Clipperton [France] in distribution. Include Isla del Coco, Costa Rica, in distribution (Bernard, McKinnell & Jamieson, 1991). Size: 150 mm (Hutsell, Hutsell & Pisor, 1997). Include the Islas Revillagigedo, México; L'île Clipperton [France]; Isla Jicarita, Golfo de Chiriquí, Panamá; Isla de Malpelo, Colombia; and the Islas Galápagos, Ecuador, in distribution (Skoglund, 2000a).
- *Spondylus nicobaricus* Schreibers, 1793. Extend distribution to Isla del Coco, Costa Rica (Shasky, 1983). Synonyms: *S. hystrix* Röding, 1798; *S. radians* Lamarck, 1819; *S. aculeatus* Broderip, 1833; *S. ciliatus* Sowerby, 1847; *S. coccineus* Sowerby & Reeve, 1847; *S. serratissimus* Dall, Bartsch & Rehder, 1938; *S. lindeae* Iredale, 1939; *S. percea* Iredale, 1939. Distribution: Australia; Comoros; Madagascar; Hawaii; Mauritius; Philippines; Solomon Islands (Lamprell, 1987). Delete Isla del Coco, Costa Rica, from distribution (Skoglund, 2000a).
- 211 *Spondylus princeps* Broderip, 1833, non Schreibers, 1793. Include L'île Clipperton [France] in distribution (Perrin, 1977). Depth: 21 to 41 m (Shasky, 1980). Add synonyms: *Spondylus unicolor* Sowerby, 1847 [212]; *S. limbatus* Sowerby, 1847. Distribution: 5°S-28°N. Depth: 2 to 40 m (Bernard, 1983a). Synonym: *S. victoriae* Durham, 1950, non Sowerby, 1859 (Moore, 1987). Length: 202 mm (Draper, 1987). Extend distribution south to Chiclayo, Perú (Alamo & Valdivieso, 1987). Include the Islas Galápagos, Ecuador, in distribution (Bernard, McKinnell & Jamieson, 1991). Holotype figured. Synonyms: *Spondylus princeps unicolor* Sowerby, *auctt.*, non Sowerby, 1847 [212]; *S. pictorum* Chemnitz MS; *S. schröter*, 1786, ex Chemnitz MS; *S. crasssquama* Lamarck, *auctt.*, non Lamarck, 1819. Delete as synonyms: *Spondylus leucacanthus* Broderip, 1833; *S. dubius* Broderip, 1833 (holotype figured). Petition filed by Skoglund with the ICZN to suppress *Spondylus princeps* Schreibers, 1793. Length to 145 mm, not including spines. Distribution: Isla Cedros, on the Pacific side of Baja California, Bahía de los Angeles and Isla Angel de la Guarda on the Baja side of the Golfo de California and Isla San Pedro Nolasco on the mainland side of the Golfo de California, México, and south to Isla de la Plata, Ecuador (type locality), and Perú. Depth: 3 to 32 m (Skoglund & Mulliner, 1996). *Spondylus princeps* Broderip, 1833, to have precedence over *S. princeps* Schreibers, 1793 (ICZN Case 3014 Bulletin of Zoological Nomenclature 57(1):7, March, 2000).
- *Spondylus tenebrosus* Reeve, 1856. Synonym: *Spondylus hawaiiensis* Dall, Bartsch & Rehder, 1938. Recorded from L'île Clipperton [France] (Emerson, 1978). Distribution: 10°N (L'île Clipperton); western Pacific, intertidal zone (Bernard, 1983a). Include Isla del Coco, Costa Rica, in distribution (Emerson, 1994).
- 212 *Spondylus princeps unicolor* Sowerby, 1847. Delete here. As a synonym. See *S. princeps* Broderip, 1833 [211].
- 213 *Spondylus ursipes* Berry, 1959. As a synonym of *S. calcifer* Carpenter, 1857 (Abbott, 1974). As a valid species. Distribution: 27°N-31°N, 10 to 25 m (Bernard, 1983a). Holotype figured (C. Hertz, 1984). Height: 152.5 mm (Wagner & Abbott, 1990). Delete here. As a synonym. See *Spondylus leucacanthus* Broderip, 1833.
- *Spondylus victoriae* (Sowerby, 1859). Distribution: 26°N-30°N. Depth: 10 to 40 m (Bernard, 1983a). Delete. Known only from northwestern Australia and the Northern Territory (Lamprell, 1987).
- Superfamily ANOMIOIDEA
Family ANOMIIDAE
- Genus *Anomia* Linnaeus, 1758
Subgenus *Anomia*, s. s.
- 221 *Anomia* (*A.*) *adamas* Gray, 1850. Extend distribution south to Pimentel, Perú (Peña, 1971). Include off Bahía San Carlos, Sonora, México, in distribution. Depth: intertidal zone to 35 m (F. & L. Poorman, 1988). Delete here. As a synonym. See *Anomia peruviana* d'Orbigny, 1846 [223].
- 222 *Anomia* (*A.*) *fidenas* Gray, 1850. Distribution: 9°N-25°N (Bernard, 1983a). Delete here. As a synonym. See *Anomia peruviana* d'Orbigny, 1846 [223].
- 223 *Anomia* (*A.*) *peruviana* d'Orbigny, 1846. Extend distribution into the Golfo de California to Puertecitos, Baja California, México (DuShane,

1962). Extend distribution across the Golfo de California to Bahía San Carlos, Sonora, México (DuShane & Poorman, 1968). Add synonyms: *?Anomia laqueata* Reeve, 1859; *A. limatula* Dall, 1878. Add L'île Clipperton [France] and the Islas Galápagos, Ecuador, to distribution. Depth: intertidal zone to 130 m (Bernard, 1983a). Occurrence in the Islas Galápagos doubtful (Finet, 1985). Extend distribution across the Golfo de California to south of San Felipe, Baja California, México (Gemmell, Myers & Hertz, 1987). Length: 84.4 mm (Draper, 1987). Extend distribution south to Sechura, Perú (Alamo & Valdivieso, 1987). Galápagos distribution restated. Include Isla del Coco, Costa Rica, and Islas Revillagigedo, México, in distribution (Bernard, McKinnell & Jamieson, 1991). Add synonyms: *Anomia fidenas* Gray, 1850 [222]; *A. adamas* Gray, 1850 [231]; *A. alectus* Gray, 1850; *A. tenuis* C. B. Adams, 1852; *A. subcostata* Conrad, 1855; *Placunanomia claviculata* Carpenter, 1857; *Anomia simplex* Mabilille, 1895, *non* d'Orbigny, 1842 (Coan, Valentich Scott & Bernard, 2000).

Genus *Pododesmus* Philippi, 1837
Subgenus *Pododesmus*, s. s.

- 226 *Pododesmus* (*P.*) *foliatus* (Broderip, 1834).
Synonym: *Pododesmus puntarensis* Soot-Ryen, 1952. Distribution: 4°S-23°N (Bernard, 1983a). Include the Islas Galápagos, Ecuador, in distribution (Finet, 1991).
- 228 *Pododesmus* (*P.*) *pernoides* (J. E. Gray, 1853).
Extend distribution south to Oaxaca, México (Abbott, 1974). Subgenus changed from *Tedinia* by Coan & Scott (1997). Size: 68.7 mm (Hutsell, Hutsell & Pisor, 1997).

Subgenus *Monia* Gray, 1850

- 227 *Pododesmus* (*M.*) *macrochisma* (Deshayes, 1839).
Add synonym: *?Placunanomia alope* Gray, 1849 (Keen & Coan, 1975). Widely distributed on both sides of the northern Pacific. Shell and anatomy figured (Yonge, 1977). Distribution: 28°N-58°N (Bernard, 1983a). Synonyms: *Pododesmus* (*M.*) *cepio* (Gray, 1850) [227]; *?Pododesmus newcombei* Arnold & Clark, 1923. Distribution: Alaska to Baja California Sur, México; Japan (Moore, 1987). Length: 128.4 mm (Draper, 1987). Extend

distribution into the Golfo de California to Bahía San Carlos, Sonora, México. On pilings in estero (F. & L. Poorman, 1988). Distribution: Arctic Ocean, Bering Sea, throughout the Aleutian Islands to northern Japan, south to Bahía Magdalena, Baja California Sur, and at Arena Bank in the southern Golfo de California and Guaymas, Sonora, Mexico, in the mid Golfo (Coan, Valentich Scott & Bernard, 2000).

Family **PLACUNIDAE** Yonge, 1977

Genus *Placunanomia* Broderip, 1832

- 224 *Placunanomia cumingii* Broderip, 1832. Extend distribution north to Bahía San Carlos, Sonora, México (DuShane & Poorman, 1967). Shell and anatomy figured (Yonge, 1977). Include the Islas Galápagos, Ecuador, in distribution (Bernard, McKinnell & Jamieson, 1991). Extend distribution north to off Cabo San Miguel, Baja California, México (Hendrickx & Toledano Granados, 1994). Length: 91.2 mm (Hutsell, Hutsell & Pisor, 1999).

Subclass **HETERODONTA**
Order **VENEROIDA**
Family **CARDINIIDAE**

Genus *Tellidorella* Berry, 1963

- 236 *Tellidorella cristulata* Berry, 1963. Extend distribution south to Esmeraldas, Ecuador (Cruz-P., 1977). Extend distribution south to the Golfo de Guayaquil, Ecuador (Cruz-P., 1983). Holotype figured (C. Hertz, 1984). Extend distribution south to Isla de la Plata, Ecuador (Shasky, 1984). Include off Bahía San Carlos, Sonora, México, in distribution. Depth: 110 m (F. & L. Poorman, 1988).

Superfamily **CORBICULOIDEA**
Family **CORBICULIDAE**

Genus *Polymesoda* Rafinesque, 1828
Subgenus *Polymesoda*, s. s.

- *Polymesoda* (*P.*) *acuta* (Prime, 1861). Distribution: 1°N, intertidal zone (Bernard, 1983a).
- *Polymesoda* (*P.*) *cordata* (Martens, 1865). Holotype figured. Said to be from Salina Cruz,

Oaxaca, México (Taylor, 1997).

- 247 *Polymesoda* (*P.*) *mexicana* (Broderip & Sowerby, 1829). Add synonym: *Cyrena insignis* Deshayes, 1855 (Bernard, 1983a).

Subgenus *Egeta* H. & A. Adams, 1858

- 249 *Polymesoda* (*E.*) *altalis* (Gould, 1853). Distribution: 12°N-23°N (Bernard, 1983a).
 250 *Polymesoda* (*E.*) *anomala* (Deshayes, 1855). Add synonyms: *Cyrena (Anomala) cumingii* Deshayes, 1855; *C. cardiformis* Sowerby, 1876. Delete as synonym: *C. peruviana* Deshayes, 1855 (Bernard, 1983a).
 251 *Polymesoda* (*E.*) *inflata* (Philippi, 1851). Correct dates on synonyms to *Cyrena maritima* C.B. Adams, 1852, *non* d'Orbigny, 1842, and *C. panamensis* Prime, 1861 (Keen & Coan, 1975). Add synonyms: *Cyrena peruviana* Deshayes, 1854; *C. bullata* Sowerby, 1878. Delete as synonym: *C. cardiformis* Sowerby, 1878 (Bernard, 1983a). Extend distribution north to Bahía Navidad, Jalisco, México. Dredged at 20 m (Landa-Jaime & Arciniega-Flores, 1998).

Subgenus *Neocyrena*
 Crosse & Fischer, 1894

- 253 *Polymesoda* (*N.*) *fontainei* (d'Orbigny, 1844). Distribution: 1°S-18°S (Bernard, 1983a).
 255 *Polymesoda* (*N.*) *nicaraguana* (Prime, 1869). Distribution: 8°N-12°N (Bernard, 1983a).
 ---- *Polymesoda* (*N.*) *triangulata* (Busch, 1849). Distribution: 23°N, intertidal (Bernard, 1983a).

Superfamily DREISSENOIDEA
 Family DREISSENIDAE

Genus *Mytilopsis* Conrad, 1858

- 257 *Mytilopsis adamsi* Morrison, 1946. *Mytilopsis adamsi* Morrison, 1946, and *M. zeteki* Hertlein & Hanna, 1949 [259], as synonyms of *Mytilopsis leucophaeta* (Conrad, 1858). Include the Caribbean and North Atlantic in distribution (Bernard, 1983a). Delete *M. leucophaeta*. Distribution confined to the brackish waters of the Atlantic (Marelli & Gray, 1983).
 ---- *Mytilopsis sallei* (Récluz, 1849). Extend distribution to the Gatún and Miraflores Locks,

Panamá Canal, Panamá (Rosewater, 1976). Synonyms: *Dreissena domingensis* Récluz, 1852; *Tichogonia pfeifferi* Dunker, 1853; *T. rossmaessleri* Dunker, 1853; *T. riisei* Dunker, 1853; *Dreissena gundlachii* Dunker, 1855; *D. moerchiana* Dunker, 1855; *Mytilopsis allyneana* Hertlein & Hanna, 1949. Redescribed and figured. Distribution: brackish waters in southern Florida; Yucatan, México, to Venezuela; West Indies. Introduced to Fiji and eastern India (Marelli & Gray, 1983).

Superfamily CYRENOIDOIDEA
 Family CYRENOIDIDAE

Genus *Cyrenoida* Joannis, 1835

- 267 *Cyrenoida panamensis* Pilsbry & Zetek, 1931. Extend distribution north to Colorado de Abangares, Guanacaste, Costa Rica (Palacios, Rodríguez Cruz & Bolaños, 1986).

Superfamily LUCINOIDEA
 Family LUCINIDAE
 Subfamily LUCININAE

Genus *Lucina* Bruguière, 1797
 Subgenus *Callucina* Dall, 1901

- 268 *Lucina* (*C.*) *lampra* (Dall, 1901). As subgenus *Cavilinga* (Bretsky, 1976). Drawing of figured type (Gemmell, Myers & Hertz, 1987). Length: 19.2 mm (Draper, 1987). As subgenus *Callucina* (Moore, 1988). Include the Islas Revillagigedo, México, in distribution (Bernard, McKinnell & Jamieson, 1991).
 269 *Lucina* (*C.*) *lingualis* Carpenter, 1864. As subgenus *Cavilinga* (Bretsky, 1976). As subgenus *Callucina* (Moore, 1988).
 270 *Lucina* (*C.*) *prolongata* Carpenter, 1857. Extend distribution into the Golfo de California at Puertecitos, Baja California, México (DuShane, 1962). Extend distribution south to Esmeraldas, Ecuador. Depth to 90 m (Cruz-P., 1977). Subgenus changed from *Cavilinga* (Bernard, 1983a).

Subgenus *Cavilinga* Chavan, 1937

- 270 *Lucina* (*C.*) *prolongata* Carpenter, 1857. Delete here. Subgenus changed. See *Lucina* (*Callucina*)

prolongata [270].

Subgenus *Lucinisca* Dall, 1901

- 272 *Lucina* (L.) *centrifuga* (Dall, 1901). Delete here. Genus changed. See *Lucinisca centrifuga* [272].
 273 *Lucina* (L.) *fenestrata* Hinds, 1845. Delete here. Genus changed. See *Lucinisca fenestrata* [273].

Subgenus *Parvilucina* Dall, 1901

- 274 *Lucina* (P.) *approximata* (Dall, 1901). Delete here. Genus changed. See *Parvilucina approximata* [274].
 275 *Lucina* (P.) *mazatlanica* (Carpenter, 1857). Delete here. Genus changed. See *Parvilucina mazatlanica* [275].

Subgenus *Pleurolucina* Dall, 1901

- 276 *Lucina* (P.) *cancellaris* Philippi, 1846. Delete here. Genus changed. See *Linga* (P.) *cancellaris* [276].
 277 *Lucina* (P.) *leucocymoides* (Lowe, 1935). Delete here. Genus changed. See *Linga* (P.) *leucocymoides* [277].
 278 *Lucina* (P.) *undatoides* Hertlein & Strong, 1945. Delete here. Genus changed. See *Linga* (P.) *undatoides* [278].

Genus *Codakia* Scopoli, 1777

Ctena as a subgenus of *Codakia* by Bretsky (1976), and as a genus (Moore, 1988).

- 279 *Codakia distinguenda* (Tryon, 1872). Include the Islas Revillagigedo, México, in distribution (Strong & Hanna, 1930). Extend distribution into the Golfo de California to Puertecitos, Baja California, México (DuShane, 1962). Extend distribution across the Golfo de California to off Guaymas, Sonora, México (DuShane & Poorman, 1967). As subgenus *Ctena* by Abbott (1974). Subgenus *Ctena* not used. Include L'île Clipperton [France], in distribution (Bernard, 1983a). Extend distribution south to the Islas Galápagos, Ecuador (Finet, 1985). Include Isla de Gorgona, Colombia, in distribution (von Prahl, 1986). Include San Felipe, Baja California, México, in distribution (Gemmell, Myers & Hertz, 1987). Length: 142 mm (Draper, 1987). Include Isla del Coco, Costa Rica, in distribution (Bernard, McKinnell & Jamieson,

1991). Include Rocas Alijos, México, in distribution. Depth: 20 to 50 m (McLean & Coan, 1996). Extend distribution south to Caleta la Cruz, Tumbes, Perú (Mogollón, Peña Gonzáles & Béarez, 2000).

- *Codakia punctata* (Linnaeus, 1758). Synonym: *Codakia thaanumi* Pilsbry, 1918. Distribution: 1°S-9°N, including L'île Clipperton [France] and the Islas Galápagos, Ecuador; Indo-Pacific. Depth: intertidal to 5 m (Bernard, 1983a). Occurrence in the Islas Galápagos doubtful (Finet, 1985). Galápagos distribution restated (Bernard, McKinnell & Jamieson, 1991).

Genus *Ctena* Mörch, 1860

Ctena as a subgenus of *Codakia* by Bretsky (1976), and as a genus (Moore, 1988).

- 280 *Ctena chiquita* (Dall, 1901). Extend distribution into the Golfo de California to Puertecitos, Baja California, México (DuShane, 1962). Distribution confined to 28°N-31°N (Bernard, 1983a). Extend distribution across the Golfo de California to Bahía San Carlos area, Sonora, México (F. & L. Poorman, 1988).
 281 *Ctena clarionensis* Hertlein & Strong, 1946. Extend distribution into the Golfo de California to off Bahía San Carlos, Sonora, México. Depth to 35 m (DuShane & Poorman, 1967). Include Isla del Coco, Costa Rica, in distribution (Emerson, 1995). Extend distribution northwest to include Rocas Alijos, México. Depth: 20 to 50 m (McLean & Coan, 1996).
 282 *Ctena clippertonensis* Bartsch & Rehder, 1939. Extend distribution north to near Santa Rosalia, Baja California Sur, México (Draper, 1972).
 283 *Ctena galapagana* (Dall, 1901). Extend distribution north to off Bahía San Carlos, Sonora, México (DuShane & Poorman, 1967). Extend distribution south to Pimentel, Perú (Peña, 1971). Height: 19 mm (Keen & Coan, 1975). Delete distribution to Bahía San Carlos (Poorman, pers. comm., 1990).
 284 *Ctena mexicana* (Dall, 1901). Include Puertecitos, Baja California, México, in distribution (DuShane, 1962). Include the Islas Galápagos, Ecuador, in distribution (Bernard, 1983a). Figured (Gemmell, Myers & Hertz, 1987). Length: 25.5 mm (Draper, 1987). Include the Islas Revillagigedo, México, in distribution (Bernard, McKinnell & Jamieson,

1991). Extend distribution northwest to include Rocas Alijos, México. Depth: 20 to 50 m (McLean & Coan, 1996).

Genus *Epilucina* Dall, 1901

- *Epilucina californica* (Conrad, 1837). As *Epilucina*. Distribution: Crescent City, California, to Laguna San Ignacio, Baja California Sur, México, low tide to sublittoral depths (McLean, 1978). As *Lucina* (*Epilucina*). Synonym: *Lucina artemidis* Carpenter, 1857. Distribution: 17°N-42°N. Depth: 30 to 75 m (Bernard, 1983a). As *Codakia* (*Epilucina*). Distribution: northern California to Baja California Sur, México (Moore, 1988). As *Epilucina*. Extend distribution south to include Rocas Alijos, México. Depth: 20 to 50 m (McLean & Coan, 1996).

Genus *Here* Gabb, 1866

As a subgenus of *Linga* by Abbott (1974), and as a genus by Bernard (1983a); Moore (1988).

Subgenus *Here*, s. s.

- 271 *Here* (*H.*) *excavata* (Carpenter, 1857). Synonym: *Lucina richthofeni* Gabb, 1866. Distribution: San Pedro, California, to Mazatlán, Sinaloa, México (Hertlein & Grant, 1972). Figured. Include south of San Felipe, Baja California, México, in distribution (Gemmell, Myers & Hertz, 1987). Include off Isla Danzante, Golfo de California, México, in distribution. Valves taken at 135 m (Mulliner, 1996). Extend distribution north to Santa Barbara, California (Coan, Valentich Scott & Bernard, 2000). Length 20.7 mm (Norrid, 2000)

Genus *Linga* de Gregorio, 1884

Subgenus *Pleurolucina* Dall, 1901

- 276 *Linga* (*P.*) *cancellaris* (Philippi, 1846). Extend distribution into the Golfo de California to off Bahía San Carlos, Sonora, México (DuShane & Poorman, 1967). *Radiolucina* as a subgenus (Britton, 1972). As *Linga* (*Bellucina*) by Abbott (1974). Extend distribution south to the Golfo de Guayaquil, Ecuador (Cruz-P., 1983). Distribution: 28°N-31°N (Bernard, 1983a). As *Linga* (*Pleurolucina*) by Moore (1988). Include the Islas Galápagos, Ecuador, in distribution (Bernard, McKinnell & Jamieson, 1991).

- 277 *Linga* (*P.*) *leucocymoides* (Lowe, 1935). Genus changed from *Lucina* by Abbott (1974). Extend distribution south to the Golfo de Guayaquil, Ecuador (Cruz-P., 1983). Extend distribution south to Isla de la Plata, Ecuador (Shasky, 1984). Length: 17.5 mm (Draper, 1987). Extend distribution to Bahía San Carlos, Sonora, México (F. & L. Poorman, 1988). Include the Islas Galápagos, Ecuador, in distribution (Bernard, McKinnell & Jamieson, 1991).

- 278 *Linga* (*P.*) *undatoides* (Hertlein & Strong, 1945). Genus changed from *Lucina* (Abbott, 1974). Extend distribution to Bahía de los Angeles, Baja California, México. Depth: 15 to 18 m (J. Hertz, 1977).

Genus *Lucinisca* Dall, 1901

As a genus (McLean, 1978), a subgenus (Bernard, 1983a), and a genus (Coan & Scott, 1997).

- 272 *Lucinisca centrifuga* (Dall, 1901). As synonym *L. liana* Pilsbry, 1931. Extend distribution south to Paita, Piura, Perú (Peña, 1971). Depth: intertidal zone to 100 m. Distribution: 4°S-29°N, including the Islas Galápagos, Ecuador (Bernard, 1983a). Length: 24 mm (Draper, 1987). Occurrence in the Islas Galápagos doubtful (Finet, 1985). Galápagos distribution restated (Bernard, McKinnell & Jamieson, 1991).

- 273 *Lucinisca fenestrata* (Hinds, 1845). Synonyms: *Lucina ochracea* Reeve, 1850; *L. (Lucinisca) fausta* Pilsbry & Olsson, 1941 (Bernard, 1983a). Length: 49.3 mm (Draper, 1987). Extend distribution north into the Golfo de California, México, to Bahía Santa Inez, Baja California Sur (Luke, 1995).

- *Lucinisca nuttalli* (Conrad, 1837). Distribution: Santa Barbara, California, to San Felipe, Baja California; Punta [Puerto] Peñasco, Sonora, south to Manzanillo, Colima, México. Depth: littoral zone to 461 m (Hertlein & Grant, 1972). Include Islas Tres Marias, México, in distribution (McLean, 1978). Distribution: 22°N-37°N. Depth: 10 to 75 m (Bernard, 1983a). Length: 31.3 mm (Draper, 1987). Synonym: *Phacoides n. antecessors* R. Arnold, 1907. Distribution: Monterey, California, to Laguna Ojo de Libre, Baja California Sur, throughout the Golfo de California, and south to Playa Novillero, Nayarit, México. Depth: 10 to 75 m (Coan, Valentich Scott & Bernard, 2000).

Genus *Parvilucina* Dall, 1901

As a genus (Abbott, 1974), a subgenus (Bernard, 1983a), and a genus (Moore, 1988).

Subgenus *Parvilucina* s. s.

- 274 *Parvilucina* (*P.*) *approximata* (Dall, 1901). Extend distribution into the Golfo de California to Guaymas, Sonora, México (DuShane & Poorman, 1967). Extend distribution north to Monterey, California (Abbott, 1974). Extend distribution south to Isla de la Plata, Ecuador (Shasky, 1984). Hinge morphology and shell figured (Hickman, 1994). Extend distribution north in the Golfo de California to off Estero Tastiota, Sonora, México (Hendrickx & Toledano Granados, 1994). Include San Diego, California, in distribution (Luke, 1995). Synonym: *Phacoides* (*Parvilucina*) *intensus* Dall, 1903. Extend distribution north to Santa Barbara, California (Coan, Valentich Scott & Bernard, 2000).
- 275 *Parvilucina* (*P.*) *mazatlanica* (Carpenter, 1857). Distribution: Bahía Santa Inez, Golfo de California, México, to Puerto Callao, Ecuador (Olsson, 1961). Include Isla de la Plata, Ecuador, in distribution (Shasky, 1984). Include off Isla Salvatierra, Golfo de California, México, in distribution (Gemmell, Myers & Hertz, 1987). Hinge morphology and shell figured (Hickman, 1994).
- *Parvilucina tenuisculpta* (Carpenter, 1864). A Californian species with an isolated population at the head of the Golfo de California, México (Bernard, McKinnell & Jamieson, 1991). Hinge morphology and shell figured. Distribution: Alaska to Baja California Sur, México (Hickman, 1994).

Subfamily DIVARICELLINAE

Genus *Divalinga* Chavan, 1951Subgenus *Divalinga*, s. s.

- 285 *Divalinga* (*D.*) *eburnea* (Reeve, 1850). Extend distribution into the Golfo de California to Puertecitos, Baja California, México (DuShane, 1962). Extend distribution across the Golfo de California to Bahía San Carlos, Sonora, México. Depth to 60 m (DuShane & Poorman, 1967). As genus *Divaricella* by Bretsky (1976). As *Divalinga*. Hinge figured. Include San Felipe, Baja California, in distribution (Gemmell, Myers & Hertz, 1981). Include the Islas Galápagos, Ecuador,

in distribution (Finet, 1985). Length: 27.5 mm (Draper, 1987). As *Divalinga* (*D.*) by Moore (1988). Include Isla del Coco, Costa Rica, in distribution (Bernard, McKinnell & Jamieson, 1991).

Subgenus *Viaderella* Chavan, 1951

- 286 *Divalinga* (*V.*) *perparvula* (Dall, 1901). Extend distribution north to Laguna de Agiabampo, Sonora/Sinaloa, México (García-Cubas & Reguero, 1987). Include Isla del Coco, Costa Rica, in distribution (Bernard, McKinnell & Jamieson, 1991). Extend distribution north to Isla Tiburón, Golfo de California, México (Luke, 1995).

Subfamily MILTHINAE

Genus *Miltha* H. & A. Adams, 1857

- 287 *Miltha xantusi* (Dall, 1905). Synonym: *Phacoides joannis* Dall, 1905. Distribution: Guaymas, Sonora, to Mazatlán, Sinaloa; La Paz to Cabo San Lucas, Baja California Sur, México. Depth: 33 to 101 m (Hertlein & Grant, 1972). Synonym: *P. (Miltha) sanctaetrucis* Arnold, 1910 (Bernard, 1983a).

Genus *Pegophysema* Stewart, 1930Subgenus *Pegophysema*, s. s.

- 288 *Pegophysema* (*P.*) *edentuloides* (Verrill, 1870). Length: 92 mm (Goldsmith, 1971). As *Anodontia* by Bretsky (1976). As *Pegophysema*. Distribution: 28°N-30°N (Bernard, 1983a). As *Pegophysema* (*P.*) (Moore, 1988).

Subfamily MYRTEINAE

Genus *Lucinoma* Dall, 1901

As a subgenus (Bretsky, 1976), and as a genus (Bernard, 1983a).

- *Lucinoma aequizonatum* (Stearns, 1890). Distribution: Santa Barbara Islands, California, to Chile. Depth: 505 m (Abbott, 1974). Delete. Distribution restricted to 34°N-60°N (Bernard, 1983a). An isolated population occurs at the head of the Golfo de California, México (Bernard, McKinnell & Jamieson, 1991). Delete. Distribution is from the Santa Barbara Channel

south to Point Dume, California (Coan, Valentich Scott & Bernard, 2000).

- 289 *Lucinoma annulatum* (Reeve, 1850). Distribution: Alaska to Bahía Santa Inez, Baja California Sur, México (Hertlein & Grant, 1972). As genus *Miltha*, subfamily Milthinae by Bretsky (1976). As subfamily Myrtaeinae, genus *Lucinoma*. Synonyms: *Lucinoma densilineata* Dall, 1916; *L. annulata densilirata* Dall, 1919; *Lucina spectabilis* Yokoyama, 1920; *Woodia concentrica* Yokoyama, 1920. Distribution: 33°N-60°N (Bernard, 1983a). Include off Bahía San Carlos, Sonora, México, in distribution (F. & L. Poorman, 1988). Include off Isla Smith, Bahía de los Angeles, Baja California, México, in distribution. Depth: 183 m (Skoglund, 1988). Moved from subfamily Milthinae (Moore, 1988). Size: 69.4 mm (Hutsell, Hutsell & Pisor, 1997). Add synonym: *Erycina balliana* Dall, 1916. Distribution: Kodiak Island, Alaska, to the Golfo de California as far north as Guaymas, Sonora, and Isla Smith, Baja California, México (Coan, Valentich Scott & Bernard, 2000).
- 290 *Lucinoma heroica* (Dall, 1901). Extend distribution south to Pisco, Perú (Alamo & Valdivieso, 1987). Extend distribution to include Isla San Pedro, depth 40 m, and east of Isla Carmen, depth 1321 to 1344 m, Golfo de California, México (Luke, 1995).

Family UNGULINIDAE

Genus *Diplodonta* Bronn, 1831

Synonyms: *Felaniella* Dall, 1899, and others (Coan, Valentich Scott & Bernard, 2000).

- 291 *Diplodonta inezensis* (Hertlein & Strong, 1947). Extend distribution north to Puertecitos, Baja California, México (DuShane, 1962). Extend distribution across the Golfo de California to Bahía San Carlos, Sonora, México (DuShane & Poorman, 1967). Extend distribution south to Puerto López, Manabí, Ecuador (Shasky, 1984). Extend distribution north to San Felipe, Baja California, México (Gemmell, Myers & Hertz, 1987). Length: 24.4 mm (Draper, 1987).
- 294 *Diplodonta obliqua* (Philippi, 1845). Synonym: *Lucina calculus* Reeve, 1850 [294]. Distribution: 10°N-42°S (Bernard, 1983a). Extend distribution north to Laguna de Topolobampo, Sinaloa, México (García-Cubas & Reguero, 1987). As *Felaniella calculus*. Include Bahía de Mazatlán, Sinaloa,

México, in distribution (Hendrickx & Toledano Granados, 1994).

- *Diplodonta orbella* (Gould, 1851). Include Puertecitos, Baja California, México, in distribution (DuShane, 1962). Distribution: Monterey, California, to Punta [Puerto] Peñasco, Sonora, México. Depth: low tide zone to 110 m (Hertlein & Grant, 1972). Distribution: Pribilof Islands, Alaska, to the Golfo de California, México (McLean, 1978). Holotype figured. Distribution: Monterey, California, throughout the Golfo de California, México, to Panamá (Hertz, Myers & Gemmell, 1982). Synonym: *Sphaerella tumida* Carpenter, 1864. Distribution: 8°N-60°N. Depth: intertidal zone to 65 m (Bernard, 1983a). Length: 35.1 mm (Draper, 1987). Synonym: *Sphaerella tumida* Carpenter, 1864. Distribution: Monterey, California, south throughout the Golfo de California as far south as Isla Espíritu Santo, Baja California Sur, México. Depth: low intertidal zone to 46 m (Coan, Valentich Scott & Bernard, 2000).
- 295 *Diplodonta sericata* (Reeve, 1850). Extend distribution into the Golfo de California to Puertecitos, Baja California, México (DuShane, 1962). As *Felaniella* (Z.) *parilis* (Conrad, 1983) with *F. sericata* (Reeve, 1850) as a synonym (Bernard, 1983a). Extend distribution south to off Punta Chao, Perú (8°50'S) (Valdivieso, 1984). Valve interior figured. Include San Felipe, Baja California, México, in distribution (Gemmell, Myers & Hertz, 1987). As *Felaniella cornea*. Synonym: *Felaniella sericata* (Reeve, 1850). Delete *F. parilis* as a synonym, as it is restricted to fossil material (Moore, 1988). As *Diplodonta sericata*. Genus changed from *Felaniella* by Coan & Scott (1997). Synonyms: *Lucina serricata*, *auctt., nom. null.*; *L. cornea* Reeve, 1850; *L. nitens* Reeve, 1850; *L. tellinoides* Reeve, 1850; *Diplodonta* (*Felaniella*) *artemidis* Dall, 1909. Distribution: Santa Cruz Island and San Diego, California; Laguna San Ignacio, Baja California, throughout the Golfo de California, México, south to Tumbes, Perú (Coan, Valentich Scott & Bernard, 2000). Include El Golfo [de Santa Clara], Sonora, México, in distribution (Norrid, 2000).
- 292 *Diplodonta subquadrata* Carpenter, 1856. Include the Islas Revillagigedo, México, in distribution (Strong & Hanna, 1930). Syntype figured. Camera lucida drawings of hinge. Synonym: *Diplodonta suprema* Olsson, 1961 [293]. Holotype figured.

Distribution: Isla San Benito on the west coast of Baja California, throughout the Golfo de California, to Ecuador, including the Islas Galápagos (Hertz, Myers & Gemmell, 1982). Synonym: *Diplodonta subquadrata baltrana* Hertlein, 1972 (Bernard, 1983a). Include Isla del Coco, Costa Rica, in distribution (Bernard, McKinnell & Jamieson, 1991). Extend distribution north to Ocean Beach, California (Luke, 1995).

- 293 *Diplodonta suprema* Olsson, 1961. Delete here. As a synonym. See *Diplodonta subquadrata* (Carpenter, 1856) [292].

Genus *Felaniella* Dall, 1899
Subgenus *Zemysia* Finlay, 1927

- 294 *Felaniella* (Z.) *calculus* (Reeve, 1850). Delete here. As a synonym. See *Diplodonta obliqua* (Philippi, 1845) [294].
- 295 *Felaniella* (Z.) *sericata* (Reeve, 1850). Delete here. Genus changed. See *Diplodonta sericata* [295].

Genus *Phlyctiderma* Dall, 1899
Subgenus *Phlyctiderma*, s. s.

- 296 *Phlyctiderma* (P.) *discrepans* (Carpenter, 1857). Extend distribution south to Isla de la Plata, Ecuador (Shasky, 1984). Hinge dentition figured (Gemmell, Myers & Hertz, 1987). Include off Bahía San Carlos, Sonora, México, in distribution. Depth: 35 m (F. & L. Poorman, 1988). Size: 18.3 mm (Hutsell, Hutsell & Pisor, 1997). Extend distribution south to Cabo Blanco, Piura, Perú (Mogollón, Peña Gonzáles & Béarez, 2000).
- 298 *Phlyctiderma* (P.) *insula* Olsson, 1961. Extend distribution south to Cabo Blanco, Piura, Perú (Mogollón, Peña Gonzáles & Béarez, 2000).

Subgenus *Pegmapex* Berry, 1960

- 299 *Phlyctiderma* (P.) *caelatum* (Reeve, 1850). Extend distribution north to Puertecitos, Baja California, México (DuShane, 1962). Include the Islas Galápagos, Ecuador, in distribution (Finet, 1985).
- 300 *Phlyctiderma* (P.) *phoebe* (Berry, 1960). Holotype figured (C. Hertz, 1984). Extend distribution north to Bahía San Carlos, Sonora, México. Depth: 35 m (F. & L. Poorman, 1988).

Family THYASIRIDAE

As a subfamily (Bernard, 1983a), and as a family (Coan & Scott, 1997).

Subfamily **THYASIRINAE**
Dall, 1900

Genus *Thyasira* Lamarck, 1818

- 302 *Thyasira excavata* Dall, 1901. Delete here. Genus changed. See *Conchocele excavata* [302].
- 301 *Thyasira flexuosa* (Montagu, 1803). Add synonyms: *Lucina sinuata* Lamarck, 1818; *Axinus angulatus* J. Sowerby, 1821; *A. unicarinatus* Nyst, 1835; *Ptychina biplicata* Philippi, 1845; *Axinus sarsii* Philippi, 1845; *A. flexuosa rotunda* Jeffreys, 1881; *A. flexuosa polygona* Jeffreys, 1882. Distribution: circumboreal and panarctic. In western North America from the Beaufort Sea, Alaska, to San Diego, California, and in the Golfo de California, México; south to north Africa in the eastern Atlantic; to Virginia in the western Atlantic; to Hokkaido, Japan in the western Pacific. Depth: 20 to 3000 m (Valentich Scott, 1998). Add synonyms: *Thyasira gouldii* (Philippi, 1845); *T. barbarensis* (Dall, 1890) [301]; *T. cygnus* Dall, 1916 [301] (Coan & Scott, 1997). Holotype of synonym *Thyasira barbarensis* figured (Coan, Valentich Scott & Bernard, 2000).
- *Thyasira* sp. Undescribed. Off Isla San Marcos, Golfo de California, México. Figured (Mulliner, 2000).

Genus *Conchocele* Gabb, 1866

- 302 *Conchocele excavata* (Dall, 1901). Add synonym: *Thyasira tricarinata* Dall, 1916. Genus changed from *Thyasira*. Distribution: 23°N-45°N. Depth: 800 to 2050 m. Shallow water (18 to 90 m) records from the Golfo de California, México, are not for this species (Bernard, 1983a). [Type locality: between Isla San Marcos and Guaymas, Golfo de California, México. Depth: 1838 m (Dall, 1901)]. Include the Guaymas Basin, Golfo de California, México, in distribution. Depth: 1684 to 1723 m (Luke, 1995). Distribution: off San Juan de Fuca, Washington, to Santa Barbara, California, and in the central Golfo de California, México, from Isla Tortuga to Isla San José. Depth: 800 to 2520 m (Coan, Valentich Scott & Bernard, 2000).

Subfamily **AXINOPSIDINAE**

F. R. Bernard, 1983a

Genus *Axinopsida*

Keen & Chavan in Chavan, 1951

- *Axinopsida serricata* (Carpenter, 1864).
Synonyms: *Axinopsis orbiculata inequalis* Verrill & Bush, 1898; *A. viridis* Dall, 1901. Length to 8 mm. Distribution: circumboreal and panarctic; Alaska to Punta San Pablo, Baja California Sur, and in the central Golfo de California, México. In the western Pacific and the western Atlantic. Depth: low intertidal zone to 275 m (Coan, Valentich Scott & Bernard, 2000).

Genus *Adontorhina* Berry, 1947

- *Adontorhina cyclica* Berry, 1947. Distribution: Bahía de los Angeles, Golfo de California, México; from the Bering Sea, Alaska, to Isla Guadalupe, Baja California, México. Depth: 11.6 to 1886 m. Figured (Scott, 1986). Synonym: *Genaxinus filatovae* Ivanova & Moskaletz, 1984. Add to distribution: Commander Islands, Bering Sea; Sea of Japan (Kamenev, 1996).

Genus *Mendicula* Iredale, 1924

Synonym: *Odontogena* Cowan, 1964 (Coan, Valentich Scott & Bernard, 2000).

- 319 *Mendicula* sp. Delete. Shell figured in Keen (1971) as *Odontogena* cannot be this genus and the shell cannot be found at the California Academy of Sciences (Coan, pers. comm.).

Superfamily CRASSATELLOIDEA

Family CRASSATELLIDAE

Follows Coan (1979, 1984a).

Subfamily CRASSATELLINAE

Férussac, 1822

Genus *Eucrassatella* Iredale, 1924

Synonyms: *Hybolophus* Stewart, 1930; *Eucrassinella* Cruz-P., 1980 (Coan, 1984a).

- 229 *Eucrassatella antillarum* (Reeve, 1842). Lectotype figured. Add synonyms: *Crassatella laevis* A. Adams, 1854; *C. adelinae* Tryon, 1872; *C. digueti* Lamy, 1917 [229]; *Crassatellites laronus* Jordan, 1932; *Eucrassinella manabiensis* Cruz-P., 1980 [in

part]. Length: 105.2 mm. Distribution: Cabo San Lucas, Baja California Sur, throughout the Golfo de California, México, to Playas, Guayas Province, Ecuador; Venezuela. Depth: 5 to 206 m (Coan, 1984a). Length: 105.2 mm (Draper, 1987).

- 230 *Eucrassatella gibbosa* (Sowerby, 1832). Lectotype figured. Add synonyms: *Eucrassatella (Hybolophus) gibbosa tucilla* Olsson, 1932; *Eucrassinella manabiensis* and *E. aequitorialis* Cruz-P., 1980. Length: 87.4 mm. Distribution: Bahía San Juanico, west coast of Baja California Sur, México, throughout the Golfo de California, to Paita, Piura Province, Perú. Depth: 5 to 110 m (Coan, 1984a). Include the Islas Galápagos, Ecuador, in distribution (Bernard, McKinnell & Jamieson, 1991). Occurrence in the Islas Galápagos doubtful (Finet, 1994b). Islas Galápagos distribution confirmed (Kaiser, 1997).

Subfamily SCAMBULINAE

Chavan, 1952

Genus *Crassinella* Guppy, 1874.

Synonym: *Pseuderiphyla* Fischer, 1887 (Coan, 1979).

- 231 *Crassinella adamsi* Olsson, 1961. Depth: 90 m (Cruz-P., 1977). Holotype figured. Depth: 9 to 100 m (Coan, 1979). *Crassinella aduncata* Weisbord, 1964, is a cognate species in the Caribbean (Coan, 1984a).

- *Crassinella coxa* Olsson, 1964. Holotype figured. Length: 2.3 mm. Distribution: west coast of Baja California Sur; Isla Coronados, Golfo de California; Bahía San Ignacio, Sinaloa, México, south to Colombia. Depth: 36 to 160 m (Coan, 1979).

- 232 *Crassinella ecuadoriana* Olsson, 1961. Depth: 51 m (Cruz-P., 1977). Holotype figured. Length: 4.4 mm. Add La Paz, Baja California Sur, México, to distribution. Depth: low intertidal zone to 55 m (Coan, 1979).

- 233 *Crassinella mexicana* Pilsbry & Lowe, 1932. Delete here. As a synonym. See *Crassinella pacifica* (C. B. Adams, 1852) [234].

- *Crassinella nuculiformis* Berry, 1940. Holotype figured. Synonym: *Crassinella clementia* Pilsbry & Olsson, 1941. Length: 5.3 mm. Distribution: Isla Cedros, west coast of Baja California, to and throughout the Golfo de California, México, south to Ecuador. Depth: low intertidal zone to 62 m

- (Coan, 1979). *Crassinella maldonadoensis* (Pilsbry, 1897) is a cognate species from Uruguay (Coan, 1984a).
- 234 *Crassinella pacifica* (C.B. Adams, 1852). Include off Roca Consag, Golfo de California, México, in distribution (DuShane & Brennan, 1969). Depth to 90 m (Cruz-P., 1977). Holotype figured. Synonyms: *C. branneri* Arnold, 1903; *C. mexicana* Pilsbry & Lowe, 1932 [233]; *Crassinella quentinensis* Manger, 1934. Length: 10 mm. Distribution: Orange County, California, along the outer coast of Baja California, to and throughout the Golfo de California, México, and south to Tumbes Province, Perú. Depth: low intertidal zone to 158 m (Coan, 1979). Include the Islas Galápagos, Ecuador, in distribution (Bernard, McKinnell & Jamieson, 1991).
- *Crassinella skoglundae* Coan, 1979. Holotype figured. Length: 5.9 mm. Distribution: Bahía de Banderas, Nayarit, to Acapulco, Guerrero, México. Depth: 11 to 28 m (Coan, 1979).
- 235 *Crassinella varians* (Carpenter, 1857). Length: 3.3 mm. Extend distribution north to Cabo Tepoca, Sonora, México (Skoglund, 1974). Depth: 90 m (Cruz-P., 1977). Lectotype figured. Synonyms: *Crassinella goldbaumi* Jordan, 1936; *C. haylocki* Pilsbry & Olsson, 1941. Distribution: Bahía San Juanico, Baja California Sur, to and throughout the Golfo de California, México, and south to the Golfo de Guayaquil, Ecuador. Depth: low intertidal zone to 113 m (Coan, 1979). Include the Islas Galápagos, Ecuador, in distribution (Finet, 1985).
- Superfamily CARDITOIDEA
Family CARDITIDAE
Subfamily CARDITINAE
Fleming, 1828
- Genus *Cardita* Bruguière, 1792
Subgenus *Byssomera* Olsson, 1961
- 237 *Cardita* (B.) *affinis* Sowerby, 1833. Delete here. Genus changed. See *Carditamera affinis* [237].
- Subgenus *Carditamera* Conrad, 1838
- 238 *Cardita* (C.) *radiata* (Sowerby, 1833). Delete here. Genus changed. See *Carditamera radiata* [238].
- Subgenus *Cardites* Link, 1807
- 239 *Cardita* (C.) *crassicosata* (Sowerby, 1835). Delete here. Genus changed. See *Cardites crassicosata* [239].
- 240 *Cardita* (C.) *grayi* (Dall, 1903). Delete here. Genus changed. See *Cardites grayi* [240].
- 241 *Cardita* (C.) *laticostata* (Sowerby, 1833). Delete here. Genus changed. See *Cardites laticostata* [241].
- Subgenus *Cyclocardia* Conrad, 1867
- 242 *Cardita* (C.) *spurca beebei* Hertlein, 1958. Delete here. Genus changed. See *Cyclocardia beebei* [242].
- Subgenus *Pleuromeris* Conrad, 1867
- 243 *Cardita* (P.) *guanica* Olsson, 1961. Delete here. Genus changed. See *Pleuromeris guanica* [243].
- Subgenus *Strophocardia* Olsson, 1961
- 244 *Cardita* (S.) *megastrophia* (Gray, 1825). Delete here. Genus changed. See *Strophocardia megastrophia* [244].
- No subgenus given
- *Cardita aviculina* (Lamarck, 1819). Synonyms: *Cardita hawaiiensis*; *C. cruda*; *C. laysana* all of Dall, Bartsch & Rehder, 1938. Height: 10 mm. Distributed throughout the Indo-Pacific (Kay, 1979). Extend distribution to Isla del Coco, Costa Rica (Shasky, 1985). Figured (Shasky, 1986b).
- Subfamily CARDITESINAE Chavan, 1969
- Genus *Cardites* Link, 1807
Raised from subgenus (Abbott, 1974).
- 239 *Cardites crassicosata* (Sowerby, 1825). Include the Islas Galápagos, Ecuador, in distribution (Bernard, 1983a). Occurrence in the Islas Galápagos doubtful (Finet, 1985). Include Bahía Willard, Baja California, México, in distribution (Gemmell, Myers & Hertz, 1987). Length: 75.5 mm (Wagner & Abbott, 1990). Galápagos distribution restated (Bernard, McKinnell & Jamieson, 1991).
- 240 *Cardites grayi* (Dall, 1903). Include the Islas

Galápagos, Ecuador, in distribution (Bernard, 1983a). Occurrence in the Islas Galápagos doubtful (Finet, 1985). Length: 47.3 mm (Wagner & Abbott, 1990). Galápagos distribution restated (Bernard, McKinnell & Jamieson, 1991).

- 241 *Cardites laticostata* (Sowerby, 1833). Add synonyms: *Cardita turgida* Valenciennes, 1856; *C. reeveana* Clessin, 1888. Include the Islas Galápagos, Ecuador, in distribution (Bernard, 1983a). Length: 51.5 mm (Wagner & Abbott, 1990). Galápagos distribution restated. Include Isla del Coco, Costa Rica, and Islas Revillagigedo, México, in distribution (Bernard, McKinnell & Jamieson, 1991).

Genus *Strophocardia* Olsson, 1961
Raised from subgenus (Bernard, 1983a).

- 244 *Strophocardia megastropa* (Gray, 1825). Length: 57.5 mm (Wagner & Abbott, 1990). Include Isla del Coco, Costa Rica, in distribution (Bernard, McKinnell & Jamieson, 1991). Size: 59.3 mm (Hutsell, Hutsell & Pisor, 1997).

Subfamily **CARDITAMERINAE**
Chavan, 1969

Genus *Carditamera* Conrad, 1838
As a genus (Olsson, 1961). Synonym: *Byssomera* Olsson, 1961 (Abbott, 1974).

- 237 *Carditamera affinis* (Sowerby, 1833). As *Cardita affinis*. Extend distribution south to Máncora, Perú (Olsson, 1961). Include Puertecitos, Baja California, México, in distribution (DuShane, 1962). As *Cardita* (*Byssomera*). Add synonyms: *Cardita volucris* Reeve, 1843; ?*Cardita incrassatus* Carpenter, 1857. Distribution: 4°S-29°N, including the Islas Galápagos, Ecuador (Bernard, 1983a). Length: 101.2 mm (Draper, 1987). As genus *Carditamera* with *Byssomera* Olsson, 1961 as a synonym. Include San Felipe, Baja California, México, in distribution (Gemmell, Myers & Hertz, 1987).
- 238 *Carditamera radiata* (Sowerby, 1833).

Genus *Cyclocardia* Conrad, 1867
Raised from subgenus (Hertlein & Grant, 1972).

- 242 *Cyclocardia beebei* (Hertlein, 1958). Extend

distribution south to Pimentel, Perú (as *C. spurca beebei*) (Peña, 1971). Include off Esmeraldas, Ecuador, in distribution (Cruz-P., 1977). Not a subspecies of *Cardita spurca* Sowerby, 1833 (Bernard, 1983a). Extend distribution north to Bahía San Carlos, Sonora, México. Depth: 100 m (F. & L. Poorman, 1988). Include the Islas Galápagos, Ecuador, in distribution (Bernard, McKinnell & Jamieson, 1991).

Genus *Pleuromeris* Conrad, 1867
Raised from subgenus (Abbott, 1974).

- 243 *Pleuromeris guanica* Olsson, 1961.

Subfamily **THECALIINAE**
Dall, 1903

Genus *Milneria* Dall, 1881

- *Milneria kelseyi* Dall, 1916. Distribution: Monterey, California, to Punta Abrejos, on the outer coast of Baja California, México (McLean, 1978). Extend distribution south to Isla Asunción, Baja California Sur, and into the Golfo de California at Bahía de los Angeles, Baja California, México. Depth: 120 to 183 m (Skoglund, 1997).
- *Milneria minima* (Dall, 1871). Distribution: central California to Rocas Alijos, México. Depth: 20 to 50 m (McLean & Coan, 1996). Synonym: ?*Trapezium halioticola* Dall, 1871. Extend distribution north to Vancouver Island, British Columbia, Canada (Coan, Valentich Scott & Bernard, 2000).

Family **CONDYLOCARDIIDAE**

Genus *Condylocardia* F. Bernard, 1896

- 245 *Condylocardia digueti* Lamy, 1916. Extend distribution south to Isla de la Plata, Ecuador (Shasky, 1984). Include the Islas Galápagos, Ecuador, in distribution (Bernard, McKinnell & Jamieson, 1991). Extend distribution northwest to Rocas Alijos, México. Depth: 20 to 50 m (McLean & Coan, 1996).
- 246 *Condylocardia hippopus* (Mörch, 1861) Extend distribution south to Isla de la Plata, Ecuador (Shasky, 1984). Include Isla del Coco, Costa Rica, and the Caribbean in distribution (Bernard,

McKinnell & Jamieson, 1991). Include the Islas Galápagos, Ecuador, in distribution (Finet, 1994b).

Superfamily GLOSSOIDEA

J. E. Gray, 1847

Family KELLIELLIDAE

P.-H. Fischer, 1887

Genus *Kelliella* M. Sars, 1870

- 265a *Kelliella galathea* Knudsen, 1970. Length: 5.2 mm. Distribution: off southern Baja California, México. Depth: 2950 to 3570 m (Knudsen, 1970). Distribution: 6N-48N (Bernard, 1983a). Synonym: *Kelliella elegantula* Bernard, 1989. Distribution: British Columbia, Canada, to the Golfo de Panamá. Depth: 1760 to 4000 m (Coan, Valentich Scott & Bernard, 2000).

Family VESICOMYIDAE

Genus *Vesicomya* Dall, 1886

Subgenus *Vesicomya*, s. s.

- *Vesicomya* (*V.*) *lepta* (Dall, 1896). Length: 58 mm. Distribution: off Bahía Concepción, Baja California Sur, México, depth 1567 m, and off Tillamook, Oregon, depth 1438 m (Dall, 1908). Include the Guaymas Basin, Golfo de California, México, in distribution. Depth: 1792 to 1875 m (Luke, 1995). Synonym: *Vesicomya suavis* Dall, 1913. Include off Bahía Concepción, Golfo de California, México, in distribution. Depth: 850 to 1920 m (Coan, Valentich Scott & Bernard, 2000).
- 261 *Vesicomya* (*V.*) *stearnsii* (Dall, 1895). As *Vesicomya* (*V.*) *ovalis* (Dall, 1896) [261]. Distribution: Alaska to Panamá (Abbott, 1974). As *Vesicomya* (*V.*) *stearnsii* (Dall, 1895). Distribution: La Jolla, California, to the Golfo de California, México (Abbott, 1974). Delete. Distribution: 45°N-48°N, is not within the Panamic Province (Bernard, 1983a). Include the Guaymas Basin and the Carmen Basin, Golfo de California, México, in distribution. Depth: 1321 to 1875 m (Luke, 1995). Distribution: Vancouver Island, British Columbia, Canada, off Oregon, to the Golfo de California, México, and south to the Golfo de Panamá, Panamá. Depth: 370 to 3070 m (Coan, Valentich Scott & Bernard, 2000).

Subgenus *Callogonia* Dall, 1889

- *Vesicomya* (*C.*) *angulata* Dall, 1908. Length: 58 mm. Distribution: Golfo de Panamá, Panamá. Depth: 2324 m (Dall, 1908). Extend distribution north to the west slope of the Farallon Basin (25°17'N, 110°19'W), Golfo de California, México. Depth: 1810 to 1908 m (Luke, 1995).
- *Vesicomya* (*C.*) *suavis* Dall, 1913. As subgenus *Archivesica*. Length: 34 mm. Distribution: west of Isla Tiburón, Golfo de California, México. Depth: 1345 m (Dall, 1913). Subgenus changed from *Archivesica* (Bernard, 1983a).

Subgenus *Ectenagina* Woodring, 1928

- *Vesicomya* (*E.*) *magnifica* (Boss & Turner, 1980). Length: 263 mm. Distribution: Galápagos Rift thermal vents. Also known from the East Pacific Rise vents. Depth: 2600 m (Boss & Turner, 1980). Shell morphology figured (Kennish, Tan & Lutz, 1996).

Subgenus *Calyptogena* Dall, 1891

As a subgenus (Coan & Scott, 1997), as a genus (Barry & Kochevar, 1999), and as a subgenus (Coan, Valentich Scott & Bernard, 2000).

- *Vesicomya* (*C.*) *diagonalis* (Barry & Kochevar, 1999). Length: 240 mm. Distribution: cold seeps along the Costa Rica subduction zone (9°42.28'N, 86°4.38'W), from 2980 to 3800 m, and the Cascadia Trough along the Oregon subduction zone at 2021 m (Barry & Kochevar, 1999).
- *Vesicomya* (*C.*) *extenta* (Krylova & Moskalev, 1996). Length: 246 mm. Distribution: Monterey, California, submarine canyon, and the Costa Rica subduction zone. Depth: 3000 to 3600 m (Coan, Valentich Scott & Bernard, 2000).
- 262 *Vesicomya* (*C.*) *gigas* (Dall, 1908). Distribution: Point Sur, California, to the Golfo de California, México (Abbott, 1974). As *Calyptogena gigas*. Distribution: 27°N-52°N (Bernard, 1983a). As *Vesicomya* (*C.*) *gigas*. Extend distribution north to Vancouver Island, British Columbia, Canada. Depth: 550 to 2610 m (Coan, Valentich Scott & Bernard, 2000).
- *Vesicomya* species B. Shell structure figured. Distribution: Guaymas Basin, Golfo de California, México, hydrothermal vents (Tan, 1998).

- *Vesicomya* species D. Shell structure figured. Distribution: Guaymas Basin, Golfo de California, México, hydrothermal vents. Also occurs at the Juan de Fuca Ridge and the Oregon subduction zone hydrothermal vents (Tan, 1998).
- *Vesicomya* species E. Shell structure figured. Distribution: Guaymas Basin, Golfo de California, México, hydrothermal vents (Tan, 1998).

Superfamily CYAMIOIDEA

Family SPORTELLIDAE

Synonym: *Basterotiidae* Cossmann in Cossmann & Peyrot, 1909 (Coan, 1999a).

Genus *Sportella* Deshayes, 1858

- 341 *Sportella stearnsii* Dall, 1899. Delete here. Genus changed. See *Flabella*.

Genus *Basterotia*

Mayer in Hörnes, 1859

Synonym: *Basterotella* Olsson & Harbison, 1953 (Coan, 1997b).

- *Basterotia californica* Durham, 1950. Length: 10 mm. Distribution: Isla Cedros, outer coast of Baja California, and into and throughout the Golfo de California, México (Coan, 1997b). Distribution in the Golfo de California from Los Frailes, Baja California Sur, north to Bahía la Cholla, Sonora, and south on the Sonoran coast to Bahía San Carlos, México. Depth: intertidal zone to 100 m (Coan, 1999a).
- 343 *Basterotia hertleini* Durham, 1950. Include the Islas Galápagos, Ecuador, in distribution (Bernard, 1983a). Occurrence in the Islas Galápagos doubtful (Finet, 1985). Galápagos distribution restated (Bernard, McKinnell & Jamieson, 1991). Delete here. As a synonym. See *Basterotia peninsularis* (Jordan, 1936) [342].
- *Basterotia obliqua* Coan, 1999. Length: 10.1 mm. Distribution known only from four lots: off Bahía San Carlos, Sonora, and Los Frailes, Baja California Sur, México, and the Islas Galápagos, Ecuador. Depth: 16 to 100 m (Coan, 1999a).
- *Basterotia panamica* Coan, 1999. Synonym: ?*Basterotia peninsularis* (Jordan), *auctt. non* Jordan, 1936. Keen (1971) fig. 342 is this species. Length: 11 mm. The species broods its young. Distribution: Punta San Pablo, outer coast of Baja

California Sur, and into the Golfo de California as far north as Bahía la Cholla, Sonora, México, and south to Salinas, Guayas Province, and the Islas Galápagos, Ecuador. Depth of live material: intertidal zone to 11 m (Coan, 1999a).

- 342 *Basterotia peninsularis* (Jordan, 1936). Extend distribution north to Puertecitos, Baja California, México (DuShane, 1962). Include Bahía San Carlos area, Sonora, México, in distribution. Depth to 25 m (DuShane & Poorman, 1967). Synonyms: *Basterotia hertleini* Durham, 1950 [343]; *B. ecuadoriana* Olsson, 1961. Length: 19 mm. Distribution: from the Golfo de California to Ecuador, including the Islas Galápagos. Specimen number 342 figured by Keen (1971) is not this species (Coan, 1997b). Distribution: Isla Espíritu Santo, Baja California Sur, north in the Golfo de California to Bahía la Cholla, Sonora, México, south to Salinas, Guayas Province, and the Islas Galápagos, Ecuador. Depth: intertidal zone to 46 m. Also known from the Pliocene of southern California and the islands in the southern Golfo de California as well as the Pleistocene of Bahía Magdalena, Baja California Sur, México (Coan, 1999a).
- *Basterotia quadrata* (Hanley, 1843). Synonym: *Poromya* (?) *granatina* Dall, 1881. Length: 31.1 mm. Distribution: throughout the Golfo de California, México, south to Salinas, Guayas Province, and the Islas Galápagos, Ecuador. Also in the western Atlantic (Coan, 1997b). Distribution Golfo de California as far north as Bahía la Cholla, Sonora, México. Depth: 6 to 119 m. Also known from the Pleistocene at Punta Santa Elena, Guayas Province, Ecuador (Coan, 1999a).

Genus *Basterotina* Coan, 1999

- *Basterotina rectangularis* Coan, 1999. Length: 11 mm. Distribution: Isla Cedros, Baja California, and into the Golfo de California as far north as Puertecitos, Baja California, and Bahía San Carlos, Sonora, México, to Isla Salango, Manabí Province, Ecuador. Depth: 9 to 100 m (Coan, 1999a).

Genus *Ensitellops*

Olsson & Harbison, 1953

- 344 *Ensitellops hertleini* Emerson & Puffer, 1957. Synonym: *Ensitellops pacifica* Olsson, 1961[345].

Length: 9.4 mm. Distribution: head of the Golfo de California, México, to Ecuador (Coan, 1997b). Distribution: Bahía la Cholla, Sonora, México, to Santa Elena, Guayas Province, Ecuador. Depth: 2 to 35 m (Coan, 1999).

- 345 *Ensitellops pacifica* Olsson, 1961. Delete here. As a synonym. See *Ensitellops hertleini* Emerson & Puffer, 1957 [344].

Genus *Fabella* Conrad, 1863

- 341 *Fabella stearnsii* (Dall, 1899). As *Neaeromya*, family Leptonidae by Abbott (1974). As family Lasaeidae, genus *Pseudopythina* by Rosewater (1984). As *Fabella*. Synonym: *Sportella duhemi* Jordan, 1936 (Coan, 1997b). Distribution: Puertecitos, Baja California, México, south to the Islas Galápagos, Ecuador. Depth: 4 to 32 m. Also known from the Pleistocene at Bahía Magdalena, Baja California Sur, México (Coan, 1999a).

Superfamily CHAMOIDEA

Family CHAMIDAE

Genus *Chama* Linnaeus, 1758

Subgenus *Chama*, s. s.

- *Chama* (*C.*) *arcana* F. R. Bernard, 1976. Synonym: *Chama pellucida* Broderip, *auctt.*, non Broderip, 1835. Length: 55 mm. Distribution: Yaquina Point, Oregon, to Bahía San Juanico, west coast of Baja California Sur, México. Depth: intertidal to 50 m (Bernard, 1976). Extend distribution into the Golfo de California from Bahía de los Angeles, Baja California, to Bahía San Nicolás, Baja California Sur, México (Skoglund, 1991c). Extend distribution south to Bahía Ballena, Golfo de Nicoya, Costa Rica (C. Hertz, 1997). Size: 79.5 mm (Hutsell, Hutsell & Pisor, 1997). Holotype figured. Distribution: Pacific Grove, California, to Bahía Magdalena, Baja California Sur, and in the Golfo de California, México. Depth: intertidal zone to 390 m (Valentich Scott, 1998).
- 346 *Chama* (*C.*) *buddiana* C. B. Adams, 1852. Extend distribution north to Puertecitos, Baja California, México (DuShane, 1962). Extend distribution north to off Roca Consag, Golfo de California, México (DuShane & Brennan, 1969). Delete *Chama rubropicta* Bartsch & Rehder, 1939, as a

synonym. Include Puerto Parker, Costa Rica, in distribution. Low intertidal zone to 2 m (Bernard, 1976). Extend distribution north to La Unión, El Salvador (Hernández, 1979). Lectotype figured. Synonyms: *Chama mexicana* Carpenter, *auctt.*, non Carpenter, 1857 [349]; *C. frondosa fornicata* Carpenter, 1857. Distribution: San Felipe, Baja California, México, to the Islas Galápagos, Ecuador (Hertz, Gemmell & Myers, 1982). Length: 119.9 mm (Wagner & Abbott, 1990). As *Chama mexicana*. Extend distribution to include Bahía Magdalena, Baja California Sur, México (Félix-Pico & García-Domínguez, 1993). Size: 128.2 mm (Hutsell, Hutsell & Pisor, 1997).

- 346a *Chama* (*C.*) *corallina* Olsson, 1971. Holotype figured. Extend distribution north to Sonora, México. Depth: 18 to 95 m (Bernard, 1976).
- 347 *Chama* (*C.*) *echinata* Broderip, 1835. Syntype figured. Synonym: *Chama delesserti* Chenu, 1846. Distribution: Isla Ángel de la Guarda, Golfo de California, México, south to Isla Huanape, northern Perú (Bernard, 1976). Synonym: *Chama frondosa mexicana* Carpenter, 1857 (Hertz, Gemmell & Myers, 1982). No synonyms listed (Moore, 1988). Length: 74 mm (Wagner & Abbott, 1990). Include the Islas Galápagos, Ecuador, in distribution (Bernard, McKinnell & Jamieson, 1991).
- 348 *Chama* (*C.*) *frondosa* Broderip, 1835. Extend distribution north to near Santa Rosalia, Baja California Sur, México (Draper, 1972). Holotype figured. Add synonym: *Chama pacifica* Carpenter, 1857, *ex* Gould MS, *nom. nud.*, non Broderip, 1834. Intertidal zone to 25 m, on boulders (Bernard, 1976). Synonym: *Chama producta* Broderip, 1835 (holotype figured) (Hertz, Gemmell & Myers, 1982). Extend distribution north to San Felipe, Baja California, México (Gemmell, Myers & Hertz, 1987). No synonyms listed (Moore, 1988). Length: 126.7 mm (Wagner & Abbott, 1990). Include Isla Socorro, Islas Revillagigedo, México, in distribution (Holguín-Quíñones, Mille-Pagaza & Pérez-Chi, 1992). Size: 146.7 mm (Hutsell, Hutsell & Pisor, 1997).
- *Chama* (*C.*) *garthi* F. R. Bernard, 1976. Synonym: *Chama spinosa* Broderip, *auctt.*, non Broderip, 1835. Height: 23.7 mm. Distribution: Colombia and Ecuador. Depth: intertidal zone to 22 m (Bernard, 1976).
- 349 *Chama* (*C.*) *mexicana* Carpenter, 1857. Synonyms: *Chama producta* Broderip, 1835 (*nom. obl.*); *C.*

purpurascens Tryon, 1872, ex Conrad MS; *C. compacta* Clessin, 1889. Extend distribution south to Guatemala. Depth to 80 m (Bernard, 1976). Delete here. As a synonym. See *Chama buddiana* C. B. Adams, 1852 [346].

---- *Chama (C.) pellucida* Broderip, 1835. Distribution: Oregon to Chile; Islas Galápagos, Ecuador (Dall, 1921). Synonym: *Chama chilensis* Philippi, 1887. Holotype of *C. chilensis* figured. Distribution: Paita, Piura Province, Perú, to Chile. Depth: intertidal zone to 30 m (Bernard, 1976). Include the Islas Galápagos, Ecuador, in distribution (Kaiser, 1997).

350 *Chama (C.) sordida* Broderip, 1835. Include Roca Consag, Golfo de California, México, in distribution (Dushane & Brennan, 1969). Syntype figured. Delete *Chama digueti* Rochebrune, 1895, as synonym (Bernard, 1976). Extend distribution south to Isla de la Plata, Ecuador (Shasky, 1984). Length: 45 mm (Norrid, 2000).

351 *Chama (C.) squamuligera* Pilsbry & Lowe, 1932. Extend distribution into the Golfo de California to Puertecitos, Baja California, México (DuShane, 1962). Extend distribution to Mexican mainland at Bahía San Carlos area, Sonora, México (Dushane & Poorman, 1967). Add synonym: *Chama rubropicta* Bartsch & Rehder, 1939. Add L'île Clipperton [France] to distribution. Depth: subtidal zone to 20 m (Bernard, 1976). Length: 28.8 mm (Draper, 1987). No synonyms listed (Moore, 1988). Include Isla del Coco, Costa Rica, in distribution (Bernard, McKinnell & Jamieson, 1991). Include Isla Socorro, Islas Revillagigedo, México, in distribution (Holguín-Quiñones, Mille-Pagaza & Pérez-Chi, 1992).

---- *Chama (C.) tinctoria* F. R. Bernard, 1976. Height: 37 mm. Distribution: Islas Tres Marias, México, to Panamá. Depth: 15 to 92 m (Bernard, 1976).

352 *Chama (C.) venosa* Reeve, 1847. Holotype figured. Synonym: *Chama digueti* Rochebrune, 1895. Distribution: Isla Angel de la Guarda, Golfo de California, México, to Paita, Piura Province, Perú. Depth: subtidal zone to 4 m (Bernard, 1976).

Genus *Arcinella* Schumacher, 1817

353 *Arcinella californica* (Dall, 1903). Extend distribution into the Golfo de California to off Bahía San Carlos, Sonora, México (Dushane & Poorman, 1967). Holotype figured. Extend distribution south to Colombia. Depth: 25 to 77 m

(Bernard, 1976). Size: 81.4 mm (Hutsell, Hutsell & Pisor, 1997). Extend distribution across the Golfo de California, México, to off Isla San Marcos (Mulliner, 2000). Extend distribution south to off Caleta La Cruz, Tumbes, Perú (Mogollón, Peña Gonzáles & Béarez, 2000).

Genus *Pseudochama* Odhner, 1917

354 *Pseudochama clarionensis* Willett, 1938. Distribution: Isla Clarión, Islas Revillagigedo, México, south on the mainland coast to Isla del Tigre, Honduras; the Islas Galápagos, Ecuador. Depth: 27 to 55 m (Bernard, 1976). Include Isla del Coco, Costa Rica, in distribution (Bernard, McKinnell & Jamieson, 1991).

355 *Pseudochama corrugata* (Broderip, 1835). Extend distribution north to near Santa Rosalia, Baja California Sur, México (Draper, 1972). Distribution: Isla Partida, Golfo de California, México, to Bahía Sechura, Perú. Depth: intertidal to 5 m (Bernard, 1976). Include the Islas Galápagos, Ecuador, in distribution (Bernard, McKinnell & Jamieson, 1991).

356 *Pseudochama dalli* F. R. Bernard, 1976. Synonym: *Chama inermis* Dall, 1871, ex Carpenter MS, non Deshayes, 1863 [356]. Distribution: Islas Tres Marias, México, to Panamá. Only on wooden pilings, subtidal zone to 5 m (Bernard, 1976).

---- *Pseudochama exogyra* (Conrad, 1837). Synonym: *Pseudochama granti* Strong, 1934. Syntype figured. Type locality of *P. granti*: Isla Clarión, Islas Revillagigedo, México. Distribution: southern British Columbia, Canada, to Isla San Benito, México. Intertidal zone to 155 m (Bernard, 1976). Length: 79.7 mm (Draper, 1987). Delete *P. granti* as a synonym. Distribution: Monterey, California, to Cabo San Lucas, Baja California Sur, México (C. Hertz & Skoglund, 1992). Depth: intertidal zone to 591 m (Valentich Scott, 1998).

---- *Pseudochama granti* Strong, 1934. A valid species. Distribution: Vancouver Island, Canada, to Punta Rompiente, west coast of Baja California, México; Bahía de los Angeles, Golfo de California, México (Hertz & Skoglund, 1992). Attachment by either right or left valve reported (Hamada & Matsukuma, 1995).

357 *Pseudochama janus* (Reeve, 1847). Holotype figured. Endemic to the Islas Galápagos, Ecuador. Depth: 10 to 25 m (Bernard, 1976). Size: 57.4 mm

(Hutsell, Hutsell & Pisor, 1997).

- 358 *Pseudochama panamensis* (Reeve, 1847). Extend distribution north to near Santa Rosalia, Baja California Sur, México (Draper, 1972). Holotype figured. Distribution: Bahía San Luis Gonzaga, Baja California, México, to Cabo San Francisco, Ecuador. Depth: midtide zone to 10 m (Bernard, 1976). Length: 46.7 mm (Draper, 1987). Include the Islas Galápagos, Ecuador, in distribution (Bernard, McKinnell & Jamieson, 1991).
- 359 *Pseudochama saavedrai* Hertlein & Strong, 1946. Holotype figured. Distribution: Puerto Peñasco, Sonora, México, to Panamá. Depth: low intertidal zone to 55 m (Bernard, 1976). Length: 71 mm (Wagner & Abbott, 1990). Include the Islas Galápagos, Ecuador, in distribution (Bernard, McKinnell & Jamieson, 1991). Extend distribution south to Caleta La Cruz, Tumbes, Perú (Mogollón, Peña & Béarez, 2000).

Superfamily GALEOMMATOIDEA

Family GALEOMMATIDAE

J. E. Gray, 1847

Genus *Galeommella* Habe, 1958

- 306 *Galeommella peruviana* (Olsson, 1961). Include the Islas Galápagos, Ecuador, in distribution (Bernard, 1983a). Occurrence in the Islas Galápagos doubtful (Finet, 1985). Galápagos distribution restated (Bernard, McKinnell & Jamieson, 1991).

Genus *Bellascintilla* Coney, 1990

- *Bellascintilla parmaleeana* Coney, 1990. Length: 4.5 mm. Shell and hinge figured. Distribution: Rancho El Tule, Baja California Sur, México, to Isla Salango, Manabí Province, Ecuador (Coney, 1990).

Genus *Tryphomyx* Olsson, 1961

- 307 *Tryphomyx lepidiformis* Olsson, 1961. As a synonym of *Tryphomyx mexicanus* (Berry, 1959) [308] by Bernard (1983a). As a valid species. Shell and hinge figured. Single valve reported from Bahía la Cholla, Sonora, México, may be a labeling error, as all others of this species are from Panamá (Coney, 1990).

- 308 *Tryphomyx mexicanus* (Berry, 1959). Synonym: *Tryphomyx lepidiformis* Olsson, 1961 [307]. Distribution: 9°N-31°N (Bernard, 1983a). Holotype figured (C. Hertz, 1984). Delete *T. lepidiformis* Olsson as a synonym. Shell and hinge figured. Distribution: throughout the Golfo de California as far south as Punta Arena, Baja California Sur, México (Coney, 1990).

Family LASAEIDAE Gray, 1842

As a subfamily (Bernard, 1983a). As a family (Coan & Scott, 1997). Synonyms: Kelliidae Forbes & Hanley, 1849; Erycinidae Deshayes, 1850; Montacutidae W. Clark, 1855; subfamilies Borniinae, Mysellinae, Orobittellinae, Thecodontinae Bernard, 1983 (Coan, Valentich Scott & Bernard, 2000).

Genus *Lasaea* Brown, 1827

- 311 *Lasaea adansoni* (Gmelin, 1791) As *Lasaea adansoni* (Gmelin, 1871), with *L. subviridis* as a subspecies. Distribution: Monterey, California, to La Paz, Baja California Sur, México; southeastern Florida; Bermuda; Brazil; Europe (Abbott, 1974). *L. subviridis* as a species. Synonym: *Lasaea rubra subviridis* Stearns, 1894, ex Carpenter MS. Distribution: 23°N-55°N (Bernard, 1983a). Delete *Lasaea rubra subviridis* Stearns, 1894, *nom. nud.*, as a synonym. Syntypes isolated for *Lasaea subviridis* Dall, 1899 (Coan, 1987). Cannot be distinguished from *Lasaea cistula* Keen, 1938, by morphology alone (O'Foighil & Eernisse, 1988). As *Lasaea adansoni*. See Coan, Valentich Scott & Bernard (2000) for the many synonyms, including *Lasaea cistula* Keen, 1938. Distribution: circumboreal and cosmopolitan in temperate and warm water. In the eastern Pacific from Sitka, Alaska, to Isla Lobos de Afuera, Perú. Depth: intertidal zone to 10 m (Coan, Valentich Scott & Bernard, 2000).
- *Lasaea cistula* Keen, 1938. Distribution: British Columbia, Canada, to Perú (Abbott, 1974). Synonym: *Erycina catalinae* Dall, 1916, *nom. nud.* Delete. Distribution (28°N-40°N), is north of the Panamic Province (Bernard, 1983a). As a synonym. See *Lasaea adansoni* [311].
- *Lasaea petitiana* (Récluz, 1843). Synonym: *Lasaea helenae* Soot-Ryen, 1959. Distribution 20°S-52°S (Bernard, 1983). Include the Islas

Galápagos, Ecuador, in distribution (Bernard, McKinnell & Jamieson, 1991).

Genus *Aligena* Lea, 1846

- 324 *Aligena cokeri* Dall, 1909. Attaches to tubes of annelid worm *Mesochaetopterus alipes* Monroe, 1933 (Rosewater, 1976). Include the Islas Galápagos, Ecuador, in distribution (Bernard, McKinnell & Jamieson, 1991).
- 325 *Aligena nucea* Dall, 1913. Hinge figured. Distribution: San Felipe, Baja California, México, south to Panamá (Gemmell, Myers & Hertz, 1987).
- 334 *Aligena obliqua* (Harry, 1969). Genus changed from *Orobitella*. Valve interior figured. Extend distribution north to San Felipe, Baja California, and Puerto Peñasco, Sonora, México (Gemmell, Myers & Hertz, 1987). Extend distribution south to Bahía Mazatlán, Sinaloa, México (Hendrickx & Toledano Granados, 1994).

Genus *Amerycina* Chavan, 1959

- 309 *Amerycina colpoica* (Dall, 1913). Extend distribution to the Islas Galápagos, Ecuador (Bernard, 1983a). Occurrence in the Islas Galápagos doubtful (Finet, 1985). Galápagos distribution restated. Include Isla del Coco, Costa Rica, in distribution (Bernard, McKinnell & Jamieson, 1991).
- 310 *Amerycina cultrata* Keen, 1971. Extend distribution north to Guaymas, Sonora, México. Depth: 91 m (Keen & Coan, 1975). Extend distribution north on the Baja California side of the Golfo de California, México, to off Isla San Marcos (Mulliner, 2000).

Genus *Bornia* Philippi, 1836

- 313 *Bornia chicleya* Olsson, 1961. Extend distribution north to San Felipe, Baja California, México (C. Hertz, 1976). Hinge dentition figured (Gemmell, Myers & Hertz, 1987).
- 315 ?*Bornia obtusa* (Carpenter, 1857). Delete here. Holotype is a juvenile *Mysella* of unknown species (Bernard, 1975). See *Mysella* sp.
- 316 *Bornia papyracea* (Deshayes, 1856). As genus *Rhamphidonta* (Bernard, 1975). As *Bornia*. Depth: 10 to 50 m (Bernard, 1983a).

Genus *Cymatioa* Berry, 1964

- 303 *Cymatioa dubia* (Deshayes, 1856). Distribution: 1°S-3°S. Depth: intertidal zone to 10 m (Bernard, 1983a).
- 304 *Cymatioa electilis* (Berry, 1963). Hinge figured (Gemmell, Myers & Hertz, 1981). Distribution: 1°S-28°N (Bernard, 1983a). Holotype figured (C. Hertz, 1984). Found attached to the burrow of the shrimp *Axius* (Baldwin, 1990). Correct shrimp name to *Axiopsis* cf. *A. serratifrons* (A. Milne Edwards, 1873) (C. Hertz [ed.], 1990). Include Isla del Coco, Costa Rica, in distribution (Bernard, McKinnell & Jamieson, 1991). Extend distribution north to southern California (Coan & Scott, 1997). Distribution: Santa Barbara, California, throughout the Golfo de California, México, to the Islas Galápagos, Ecuador (Coan, Valentich Scott & Bernard, 2000).
- 305 *Cymatioa pulchra* (Philippi, 1849). Extend distribution south to Isla de la Plata, Ecuador (Shasky, 1984).

Genus *Isorobitella* Keen, 1962

- 338 *Isorobitella trigonalis* (Carpenter, 1857). Synonym: *Aligena cerritensis* Arnold, 1903. Genus changed from *Orobitella* (Bernard, 1983a). Add synonym: *Neaeromya singularis* (Keen, 1962). Distribution: Newport Bay, California, throughout the Golfo de California, and south to Mazatlán, Sinaloa, México (Coan, Valentich Scott & Bernard, 2000).

Genus *Kellia* Turton, 1822

- *Kellia laperousii* (Deshayes, 1839). Length: 25 mm. Depth: intertidal zone to sublittoral depths. Distribution: Bering Sea, Alaska, to the Golfo de California, México (McLean, 1978). Delete here. As a synonym. See *Kellia suborbicularis* (Montagu, 1803) [312].
- 312 *Kellia suborbicularis* (Montagu, 1803). Synonyms: *Tellimya lactea* Brown, 1827; *T. tenuis* Brown, 1827; ?*Bornia inflata* Philippi, 1836; *Chironia laperoussii* Deshayes, 1839; *Bornia luticola* Valenciennes, 1846; *Kellia rotundata* Carpenter, 1864. Distribution: 4°S-60°N, circumboreal; Mediterranean. Depth: intertidal zone to 20 m (Bernard, 1983a). Include the Islas Galápagos,

Ecuador, in distribution (Finet, 1985). Extend distribution into the Golfo de California to San Felipe, Baja California, México (Gemmell, Myers & Hertz, 1987). Include off Bahía San Carlos, Sonora, México, in distribution. Depth: 60 m (F. & L. Poorman, 1988). Add synonyms: *Lepton fabagella* Conrad, 1832(?); *L. meroeum* Carpenter, 1864; *Montacuta gouldi* J. H. Thompson, 1867; *Kellia japonica* Pilsbry, 1895; *Erycina santarosae* Dall, 1916; *Rocheftortia grebintzskii* Dall, 1916; *Kellia comandorica* Scarlato, 1981. Distribution: circumboreal, from Alaska to Zorritos, Perú. Also from Iceland to the Mediterranean, from Greenland to New York, and from the Kurile Islands to Japan (Coan, Valentich Scott & Bernard, 2000).

Genus *Mysella* Angas, 1877

- 326 ?*Mysella clementina* (Carpenter, 1857). Delete. *Nom. dub.* (Bernard, 1983a). Delete here. As a synonym. See *Thracia curta* Conrad, 1837 [760].
- 327 *Mysella compressa* (Dall, 1913). Delete here. Genus changed. See *Rocheftortia*.
- 328 ?*Mysella dionaea* (Carpenter, 1857). Delete. *Nom. dub.* The single known valve is damaged and appears to be without teeth (Scott, 1987).
- *Mysella grippi* (Dall, 1912). Distribution: Oregon to San Diego, California; Golfo de California, México. Depth: 12 to 60 m (Scott, 1987). Distribution confirmed to San Felipe, Baja California, México. Hinge figured (Gemmell, Myers & Hertz, 1987). Delete here. Genus changed. See *Rocheftortia grippi*.
- 330 ?*Mysella umbonata* (Carpenter, 1857). Delete. *Nom. dub.* The four known valves are in poor condition (Scott, 1987).
- *Mysella* sp. Synonym: ?*Bornia obtusa* (Carpenter, 1857) [315] (Bernard, 1975).

Genus *Neaeromya* Gabb, 1872

- *Neaeromya compressa* (Dall, 1899). As genus *Neaeromya*, family Leptonidae. Length: 18 mm. Distribution: Alaska to Acapulco, Guerrero, México, Depth: 7 to 51 m (Abbott, 1974). As genus *Pseudopythina*. Depth: 258 m (Rosewater, 1984). As *Neaeromya* by Coan & Scott (1997).

Genus *Oorbitella* Dall, 1900

- *Oorbitella bakeri* (Dall, 1916). Synonyms: *Erycina chacei* Dall, 1916 [331]; ?*Erycina santarosae* Dall, 1916 (Bernard, 1983a). Delete here. As a synonym. See *Oorbitella californica* (Dall, 1899).
- *Oorbitella californica* (Dall, 1899). Synonyms: *Sportella californica* Dall, 1899; *Erycina bakeri* Dall, 1916; *E. coronata* Dall, 1916. Distribution: Monterey, California, to the Golfo de California, México. Moved from Sportellidae (Coan & Scott, 1997). Delete ?*Erycina santarosae* Dall, 1916; *E. chacei* Dall, 1916, as synonyms. Holotype figured. Length: 6 mm. Distribution: San Francisco Bay, California, south to the Golfo de California and in it as far north as Isla Coronados, Baja California Sur, México. Depth: 5 to 100 m (Coan, Valentich Scott & Bernard, 2000).
- 331 *Oorbitella chacei* (Dall, 1916). As a synonym of *Oorbitella bakeri* (Dall, 1916) (Bernard, 1983a). Delete. As a synonym of *Neaeromya rugifera* (Carpenter, 1864) which has a distribution north of the Panamic Province (Coan, Valentich Scott & Bernard, 2000).
- 334 *Oorbitella obliqua* (Harry, 1969). Delete here. Genus changed. See *Aligena*.
- 335 *Oorbitella oblonga* (Carpenter, 1857). Extend distribution north to Guaymas, Sonora, México (García-Cubas & Reguero, 1987).
- 336 *Oorbitella peruviana* Olsson, 1961. Extend distribution south to Punta Callao, Perú (Paredes *et al.*, 1998).
- 338 *Oorbitella trigonalis* (Carpenter, 1857). Delete here. Genus changed. See *Isorobitella*.
- 339 *Oorbitella zorrita* (Olsson, 1961). Extend distribution north to Bahía San Carlos, Sonora, México. Depth: 20 to 30 m (F. & L. Poorman, 1988).

Genus *Pristes* Carpenter, 1864

- *Pristes oblongus* Carpenter, 1864. As *Thecodonta* (*Pristes*). Distribution: Monterey, California, to Baja California, México (Abbott, 1974). Extend distribution into the Golfo de California at Cabo Tepoca, Sonora, México. Intertidal zone (Skoglund, 1974). Extend distribution north to Bahía la Cholla, Sonora, and across the Golfo de California to Bahía de los Angeles, Baja California, México (Skoglund, 1991b). Extend distribution south to Mazatlán, Sinaloa, México (Coan, Valentich Scott & Bernard, 2000).

Genus *Pseudopythina* Fischer, 1878

- *Pseudopythina muris* Rosewater, 1984. Off northwestern Perú. Depth: 90 to 133 m. Living in the respiratory cavity of the sea mouse *Aphrodita japonica* (Rosewater, 1984).

Genus *Rochefortia* Velain, 1877

As a subgenus (Bernard, 1983a), and as a genus (Coan & Scott, 1997).

- 327 *Rochefortia compressa* (Dall, 1913). *Rochefortia* as a subgenus (Bernard, 1983a). Los Angeles County, California, is the northern limit of the distribution. Depth: 5 to 64 m (Scott, 1987). Include off Bahía San Carlos, Sonora, México, in distribution. Depth: 100 m (F. & L. Poorman, 1988). As genus *Rochefortia* by Coan & Scott (1997). Holotype figured. Distribution: Santa Barbara, California; throughout the Golfo de California, México; Bahía Culebra, Costa Rica; possibly south to Zorritos, Perú (Valentich Scott, 1998).
- *Rochefortia grippi* (Dall, 1912). Moved from *Mysella* by Coan & Scott (1997). Holotype figured (Valentich Scott, 1998). Extend distribution north to Vancouver Island, British Columbia. Depth: 10 to 120 m (Coan, Valentich Scott & Bernard, 2000).
- *Rochefortia tumida* (Carpenter, 1864). Synonyms: *Mysella aleutica* Dall, 1899; *Rochefortia ferruginosa* Dall, 1916. Holotype figured. Distribution: Beaufort Sea, Alaska, to San Diego, California; Puerto Peñasco, Sonora, in the Golfo de California, México. Depth: intertidal zone to 308 m (Valentich Scott, 1998). Add synonyms: *?Montacuta obtusa* Carpenter, 1865; *Mysella sovaliki* N. L. MacGintie, 1959 (Coan, Valentich Scott & Bernard, 2000).

Genus *Solecardia* Conrad, 1849

- 322 *Solecardia eburnea* Conrad, 1849. Include Puertecitos, Baja California, México, in distribution (DuShane, 1962). Hinge figured. Include San Felipe, Baja California, México, in distribution (Gemmell, Myers & Hertz, 1981). Synonym: *Scintilla cumingii* Deshayes, 1856 (Bernard, 1983a). Length: 27.1 mm (Draper, 1987). Include off Bahía San Carlos, Sonora, México, in distribution. Depth: 60 m (F. & L. Poorman, 1988).

Include Isla del Coco, Costa Rica, in distribution (Bernard, McKinnell & Jamieson, 1991).

- 323 *?Solecardia obliqua* (Sowerby, 1862). Delete. *Nom. dub.* (Bernard, 1983a).

Family LEPTONIDAE

Genus *Lepton* Turton, 1822

- 320 *Lepton ellipticum* (Carpenter, 1857). Question on generic placement removed (Bernard, 1983a). Extend distribution north to Laguna de Agiabampo, Sonora/Sinaloa, México (García-Cubas & Reguero, 1987).
- 321 *Lepton lediforme* Olsson, 1961. Extend distribution north to San Felipe, Baja California, México. Figured (Gemmell, Myers & Hertz, 1987).

Genus *Pythinella* Dall, 1899

- 340 *Pythinella sublaevis* (Carpenter, 1857). Extend distribution south to the Golfo de Guayaquil, Ecuador (Cruz-P., 1983). Figured. Extend distribution north to the San Felipe area, Baja California, México (Gemmell, Myers & Hertz, 1987). Include Bahía San Carlos, Sonora, México, in distribution. Depth: 35 m (F. & L. Poorman, 1988). Include off Isla Danzante, Golfo de California, México, in distribution. Valve taken at 135 m (Mulliner, 1996). Length: 4.4 mm (Hutsell, Hutsell & Pisor, 1999).

Superfamily CARDIOIDEA

Family CARDIIDAE

Subfamily TRACHYCARDIIDAE

Genus *Trachycardium* Mörch, 1853

As a subgenus of *Laevicardium* by Fischer-Piette (1977), and as a genus (Keen, 1980).

Subgenus *Trachycardium*, s. s.

- 360 *Trachycardium* (*T.*) *consors* (Sowerby, 1833). Include off Bahía San Carlos, Sonora, México, in distribution. Depth: 30 to 100 m (F. & L. Poorman, 1988). Length: 95.3 mm (Wagner & Abbott, 1990).

Subgenus *Acrosterigma* Dall, 1900

- 361 *Trachycardium* (*A.*) *pristipleura* (Dall, 1901). Delete here. Genus changed. See *Acrosterigma*

pristipleura [361].

Subgenus *Dallocardia* Stewart, 1930

- 362 *Trachycardium* (*D.*) *senticosum* (Sowerby, 1833). As *Laevicardium* (*Trachycardium*) by Fischer-Piette (1977). Fischer-Piette's specimen was not this species. Reinstate as above (Keen, 1980). Depth: intertidal zone (Gemmell, Myers & Hertz, 1987). Length: 122.2 mm (Draper, 1987).

Subgenus *Mexicardia* Stewart, 1930

- 363 *Trachycardium* (*M.*) *panamense* (Sowerby, 1833). Height: 114 mm (Draper, 1987). Extend distribution north to San Diego, California (Luke, 1995).
- 364 *Trachycardium* (*M.*) *procerum* (Sowerby, 1833). Add synonym: *Cardium subelongatus* Valenciennes, 1846. Include Islas Galápagos, Ecuador, in distribution (Bernard, 1983a). Occurrence in the Islas Galápagos doubtful (Finet, 1985). Height: 91 mm (Draper, 1987). Distribution confirmed to Nayarit, México (Reguero & García-Cubas, 1989). Delete Galápagos distribution (Bernard, McKinnell & Jamieson, 1991). Distribution confirmed to off Isla de las Piedras, Sinaloa, México (Hendrickx & Toledano Granados, 1994). Extend distribution north to Bahía Santa María, Baja California, México (Luke, 1995).

Subgenus *Phlogocardia* Stewart, 1930

- 365 *Trachycardium* (*P.*) *belcheri* (Broderip & Sowerby, 1829). As *Laevicardium* (*Trachycardium*) by Fischer-Piette (1977). As *Trachycardium* (*P.*) (Keen, 1980). Depth: 80 to 140 m (Bernard, 1983a). Extend distribution south to Isla de Gorgona, Colombia (von Prael, 1986). Include off Bahía San Carlos, Sonora, México, in distribution. Depth: 35 to 60 m (F. & L. Poorman, 1988). Extend distribution north to off Estero Tastiota, Sonora, México (Hendrickx & Toledano Granados, 1994).

Genus *Acrosterigma* Dall, 1900

Raised from subgenus (Keen, 1980).

- 361 *Acrosterigma pristipleura* (Dall, 1901). As *Laevicardium* (*Trachycardium*) by Fischer-Piette

(1977), and as *Acrosterigma* by Keen (1980). Height: 118.9 mm (Wagner & Abbott, 1990). Include Islas Clarión & Socorro, Islas Revillagigedo, México, in distribution (Emerson, 1995). Lectotype of synonym, *Cardium maculosum* Sowerby in Broderip & Sowerby, 1833, figured. Include Islas Clarión and Socorro, Islas Revillagigedo, México, in distribution (Vidal, 1999).

Genus *Papyridea* Swainson, 1840

- 366 *Papyridea aspersa* (Sowerby, 1833). Include off Bahía San Carlos, Sonora, México, in distribution. Depth: 40 to 60 m (F. & L. Poorman, 1988). Include the Islas Galápagos, Ecuador, and Isla del Coco, Costa Rica, in distribution (Bernard, McKinnell & Jamieson, 1991). Length: 63.5 mm (Hutsell, Hutsell & Pisor, 1999).
- 367 *Papyridea crockeri* Strong & Hertlein, 1937. Extend distribution south to the Golfo de Guayaquil, Ecuador (Cruz-P., 1983). Include the Golfo de Nicoya, Costa Rica, in distribution (Cruz, 1996). Size: 56.6 mm (Hutsell, Hutsell & Pisor, 1997).
- 368 *Papyridea hiulca* Reeve, 1845. As *Papyridea mantaensis* Olsson, 1961 [368]. Length: 70.1 mm (Draper, 1987). As *P. hiulca*. Synonym: *Papyridea mantaensis* Olsson, 1961 [368] (Voskuil & Onverwagt, 1991).

Subfamily FRAGINAE

Genus *Fragum* Röding, 1798

- *Fragum* sp. Puerto Escondido, Baja California Sur, México (Thorson, 1992a). Delete. Reported shell may be a juvenile *Americardia* (Thorson, 1992b).

Genus *Americardia* Stewart, 1930

As a genus (Abbott, 1974; McLean, 1978), a subgenus (Keen, 1980), and a genus (Coan & Scott, 1997).

- 370 *Americardia biangulata* (Broderip & Sowerby, 1829). Extend distribution into the Golfo de California at Puertecitos, Baja California, México (DuShane, 1962). As *Corculum* (*Trigoniocardia*) by Fischer-Piette (1977), and *Trachycardium*

(*Americardia*) by Keen (1980). Synonym: *Cardium modestum* Conrad, 1855, *non* Philippi, 1845 (Bernard 1983a). Include the Islas Galápagos, Ecuador, in distribution (Finet, 1985). Extend distribution to near San Felipe, Baja California, México (Gemmell, Myers & Hertz, 1987). Length: 48 mm (Hutsell, Hutsell & Pisor, 1999). Extend distribution north to Santa Cruz Island, California (Coan, Valentich Scott & Bernard, 2000).

- 371 *Americardia guanacastensis* (Hertlein & Strong, 1947). As *Corculum* (*Trigoniocardia*) by Fischer-Piette (1977), and *Trachycardium* (*Americardia*) by Keen (1980). Include Isla del Coco, Costa Rica, in distribution (Bernard, McKinnell & Jamieson, 1991).

Genus *Trigoniocardia* Stewart, 1930

Subgenus *Trigoniocardia*, s. s.

- 369 *Trigoniocardia* (*T.*) *granifera* (Broderip & Sowerby, 1829). As *Corculum* (*Trigoniocardia*) by Fischer-Piette (1977), and as *Trigoniocardia* by Keen (1980). Length: 16 mm (Draper, 1987). Off Bahía San Carlos, Sonora, México. Depth: 35 m (F. & L. Poorman, 1988). Include the Islas Galápagos, Ecuador, in distribution (Bernard, McKinnell & Jamieson, 1991). Occurrence in the Islas Galápagos doubtful (Finet, 1994b). Include off Isla Danzante, Golfo de California, México, in distribution. Valves taken from 50 to 60 m (Mulliner, 1996). Islas Galápagos distribution confirmed (Kaiser, 1997).

Subgenus *Americardia* Stewart, 1930

- 370 *Trigoniocardia* (*A.*) *biangulata* (Broderip & Sowerby, 1829). Delete here. Genus changed. See *Americardia biangulata* [370].
- 371 *Trigoniocardia* (*A.*) *guanacastensis* (Hertlein & Strong, 1947). Delete here. Genus changed. See *Americardia guanacastensis* [371].

Subgenus *Apiocardia* Olsson, 1961

- 372 *Trigoniocardia* (*A.*) *obovalis* (Sowerby, 1833). Extend distribution south to Tumbes, Perú (Peña, 1971). Depth: 51 m (Cruz-P., 1977). Add synonyms: *Hemicardia affinis* Nelson, 1870, *non Cardium affine* Münster, 1835; *Cardium spiekeri* Hanna & Israelsky, 1925 (Bernard, 1983a). Height:

23 mm (Draper, 1987).

Subfamily LAEVICARDIINAE

Genus *Laevicardium* Swainson, 1840

- 377 *Laevicardium clarionense* (Hertlein & Strong, 1947). Length: 79.7 mm (Draper, 1987). Extend distribution across the Golfo de California to Bahía San Carlos, Sonora, México. Depth: 35 to 60 m (Dushane & Poorman, 1967). Extend distribution south to Nayarit, México (Reguero & García-Cubas, 1989).
- 378 *Laevicardium elatum* (G. B. Sowerby I in Broderip & G. B. Sowerby I, 1833). Include Roca Consag, Golfo de California, México, in distribution (DuShane & Brennan, 1969). Distribution only from 16°N to 34°N (Bernard, 1983a). Height: 190 mm (Draper, 1987). Gonadal development figured (Villalejo-Fuerte, Ceballos-Vazquez & García-Domínguez, 1996). No established populations north of Laguna Ojo de Libre, Baja California Sur, México (Coan, Valentich Scott & Bernard, 2000).
- 379 *Laevicardium elenense* (Sowerby, 1841). Add synonym: *Laevicardium pedernalense* Pilsbry & Olsson, 1941. Include the Islas Galápagos, Ecuador, in distribution (Bernard, 1983a). Possibly a synonym of *Laevicardium substriatum* (Conrad, 1837) (Coan, Valentich Scott & Bernard, 2000).
- *Laevicardium substriatum* (Conrad, 1837). Distribution: Ventura County, California, to the Golfo de California, México (Abbott, 1974). Synonym: *Cardium cruentatum* Gould, 1855. Distribution: 24°N-34°N. Depth: intertidal zone to 40 m (Bernard, 1983a). Length: 28 mm (Draper, 1987).

Subfamily PROTOCARDIINAE

Delete here. Restricted to genus *Protocardia* only. Panamic genera transferred to *Laevicardiinae* by (Schneider, 1995).

Genus *Lophocardium* Fischer, 1887

- 373 *Lophocardium annettae* (Dall, 1889). Delete here. Genus changed. See *Nemocardium* (*L.*) *annettae* [373].
- 374 *Lophocardium cumingii* (Broderip, 1833). Delete here. Genus changed. See *Nemocardium* (*L.*) *cumingii* [374].

Genus *Nemocardium* Meek, 1876Subgenus *Microcardium* Thiele, 1934

- 375 *Nemocardium* (*M.*) *panamense* (Dall, 1908). Delete here. Genus changed. See *Microcardium panamense* [375].
- 376 *Nemocardium* (*M.*) *pazianum* (Dall, 1916). Delete here. Genus changed. See *Microcardium pazianum* [376].

Subgenus *Lophocardium* Fischer, 1887

As a subgenus (Keen, 1980).

- 373 *Nemocardium* (*L.*) *annettae* (Dall, 1889). Depth: intertidal zone to 50 m (Bernard, 1983a). Size: 57.1 mm (Hutsell, Hutsell & Pisor, 1997).
- 374 *Nemocardium* (*L.*) *cumingii* (Broderip, 1833). Extend distribution north to Roca Consag, Golfo de California, México (DuShane & Brennan, 1969). Length: 47.4 mm (Wagner & Abbott, 1989). Include off Teacapán, Sinaloa, México, in distribution (Hendrickx & Toledano Granados, 1994).

Genus *Microcardium* Thiele, 1934

Raised from subgenus (Voskuil & Onverwagt, 1991).

- 375 *Microcardium* *panamense* (Dall, 1908). Ribs 54 to 56. Length: 13.5 mm (Dall, 1908). Synonym: *Microcardium williamsi* Fischer-Piette, 1977 (Keen, 1980).
- 376 *Microcardium* *pazianum* (Dall, 1916). Extend distribution into the Golfo de California to off Bahía San Carlos, Sonora, México. Depth: 20 to 100 m (DuShane & Poorman, 1967). Extend distribution south to Esmeraldas, Ecuador (Cruz-P., 1977). Extend distribution south to Isla de la Plata, Ecuador (Shasky, 1984). Length: 16.9 mm (Draper, 1987). Include the Islas Galápagos, Ecuador, in distribution (Bernard, McKinnell & Jamieson, 1991). Extend distribution north in the Golfo de California, México, to off Roca Consag (Hendrickx & Toledano Granados, 1994).

Superfamily VENEROIDEA

Family VENERIDAE

Subfamily VENERINAE

Synonym: Chioninae (Coan, Valentich Scott & Bernard, 2000).

Genus *Chione* Megerle, 1811Subgenus *Chione*, s. s.

- 440 *Chione* (*C.*) *californiensis* (Broderip, 1835). Extend distribution into the Golfo de California to Bahía San Carlos, Sonora, México (DuShane & Poorman, 1967). As a synonym of *Chione undatella* (Sowerby, 1835) [445] by Fischer-Piette & Vukadinovic (1977). As a valid species. Distribution: Carpinteria, California, to Perú (McLean, 1978). Add synonyms: *Venus brevilineata* Conrad, 1849; *V. lamellifera* Conrad, 1849; *Chione* (*C.*) *californiensis peabodyi* Parker, 1949. Distribution restricted 17°N-34°N (Bernard, 1983a). Length: 76.4 mm (Draper, 1987). Include San Felipe, Baja California, México, in distribution (Gemmell, Myers & Hertz, 1987). Synonyms: *Chione californiensis peabodyi* Parker, 1949; *C. allisoni* Hertlein & Grant, 1972. Distribution: Santa Barbara, California, to throughout the Golfo de California, to Acapulco, México. Records from Panamá should be assigned to *Chione compta* (Broderip, 1835) (Coan, Valentich Scott & Bernard, 2000).
- 441 *Chione* (*C.*) *compta* (Broderip, 1835). Synonym: *Venus neglecta* Gray, 1839, non Sowerby, 1839. Include the Islas Galápagos, Ecuador, in distribution. Depth: 20 to 30 m (Bernard, 1983a). Length: 45.7 mm (Draper, 1987). Extend distribution south to Isla Lobos de Tierra, Perú (Alamo & Valdivieso, 1987).
- 442 *Chione* (*C.*) *guatulcoensis* Hertlein & Strong, 1948. Extend distribution north to off Guaymas, Sonora, México (DuShane & Poorman, 1967). Include La Paz, Baja California Sur, México, in distribution. Intertidal zone (Hertz & Hertz, 1984). Length: 14.8 mm (Draper, 1987). Include the Islas Galápagos, Ecuador, in distribution (Bernard, McKinnell & Jamieson, 1991).
- 443 *Chione* (*C.*) *subimbricata* (Sowerby, 1835). Synonym: *Chione tumens* (Verrill, 1870) [444] (Fischer-Piette & Vukadinovic, 1977). Delete *Chione tumens* as a synonym (Bernard, 1983a). Length: 42.4 mm (Draper, 1987). Extend distribution south to Chicama, Perú (Alamo & Valdivieso, 1987). Include the Islas Galápagos, Ecuador, in distribution (Finet, 1991). Include Bahía Magdalena, Baja California Sur, México, in distribution (J. Hertz, 2000).
- 444 *Chione* (?*C.*) *tumens* (Verrill, 1870). Extend

distribution to the upper Golfo de California at Puertecitos, Baja California, México (DuShane, 1962). Delete here. As a synonym of *Chione subimbricata* (Sowerby, 1835) [443] (Fischer-Piette & Vukadinovic, 1977). As a valid species. Depth: intertidal zone to 10 m (Bernard, 1983a). Length: 47.3 mm (Hutsell, Hutsell & Pisor, 1999).

- 445 *Chione* (*C.*) *undatella* (Sowerby, 1835). Extend distribution into the Golfo de California to Puertecitos, Baja California, México (DuShane, 1962). Synonym: *Chione californiensis* (Broderip, 1835) [440] (Fischer-Piette & Vukadinovic, 1977). Distribution: Goleta, California, to Perú (McLean, 1978). Anatomy figured (Jones, 1979). Delete *Chione californiensis* as a synonym. Add synonym: *Venus californiana* Conrad, 1837 (Bernard, 1983a). Include the Islas Galápagos, Ecuador, in distribution (Finet, 1985). Include San Felipe, Baja California, México, in distribution (Gemmell, Myers & Hertz, 1987). Length: 61.4 mm (Wagner & Abbott, 1990). Include the Islas Revillagigedo, México, in distribution (Bernard, McKinnell & Jamieson, 1991).

Subgenus *Chionista* Keen, 1958

As a genus (Roonarine, 1996). As a subgenus (Coan, Valentich Scott & Bernard, 2000).

- 446 *Chione* (*C.*) *cortezi* (Carpenter, 1864, ex Sloat MS). Length: 88.5 mm (Draper, 1987). Delete here. As a synonym. See *Chione* (*C.*) *fluctifraga* [447].
- 447 *Chione* (*C.*) *fluctifraga* (Sowerby, 1853). Hinge figured (Fischer-Piette & Vukadinovic, 1977). Distribution: Mugu Lagoon, California, to the Golfo de California, México (McLean, 1978). Synonym: *Venus sugillata* Reeve, 1863 (Bernard, 1983a). Extend distribution south to Laguna de Agiabampo, Sonora/Sinaloa, México (García-Cubas & Reguero, 1987). Length: 86 mm (Wagner & Abbott, 1990). Extend distribution south to Bahía Santa María, Sinaloa, México (Hendrickx & Toledano Granados, 1994). Synonym: *Venus cortezi* Carpenter, 1864. Extend distribution north to Santa Barbara, California (Coan, Valentich Scott & Bernard, 2000).

Subgenus *Chionopsis* Olsson, 1932

As a genus (Fischer-Piette & Vukadinovic, 1977; Roonarine, 1996). As a subgenus (Coan, Valentich Scott & Bernard, 2000).

- 448 *Chione* (*C.*) *amathusia* (Philippi, 1844). Add synonym: *Chione variabilis* Nelson, 1870. Delete ?*Venus darwinii* Dunker, in Römer, 1857, as a synonym (Bernard, 1983a). Length: 65.4 mm (Draper, 1987).
- 449 *Chione* (*C.*) *crenifera* (Sowerby, 1835). As a synonym of *Nioche subrostrata* Lamarck, 1818 (Fischer-Piette & Vukadinovic, 1977). As a valid species. Synonym: *Venus eximia* Philippi, 1847, non Forbes, 1846 (Bernard, 1983a). Include the Islas Galápagos, Ecuador, in distribution (Bernard, McKinnell & Jamieson, 1991).
- 450 *Chione* (*C.*) *gnidia* (Broderip & Sowerby, 1829). Synonyms: *Venus amathusia* Philippi, 1844 [448]; *V. darwinii* Römer, 1858, ex Dunker MS; *Chione jamaniana* Pilsbry & Olsson, 1941 [451] (Fischer-Piette & Vukadinovic, 1977). Delete as synonyms: *Venus amathusia* and *Chione jamaniana* Pilsbry & Olsson, 1941 (Bernard, 1983a). Length: 116.7 mm (Wagner & Abbott, 1990).
- 451 *Chione* (*C.*) *jamaniana* (Pilsbry & Olsson, 1941). Distribution: 0°-5°S (Bernard, 1983a).
- 453 *Chione* (*C.*) *olssoni* (Fischer-Piette, 1969). Delete here. As a synonym. See *Chionopsis purpurissata* (Dall, 1902) [456].
- 454 *Chione* (*C.*) *ornatissima* (Broderip, 1835). Depth: 51 m (Cruz-P., 1977).
- 455 *Chione* (*C.*) *pulicaria* (Broderip, 1835). Extend distribution into the upper Golfo de California, México, to near San Felipe (DuShane & Brennan, 1969). Synonym: *Chione montezuma* Pilsbry & Lowe, 1932 [452] (Fischer-Piette & Vukadinovic, 1977). Delete *Chione montezuma* as a synonym. Add synonym: *Venus pinacatensis* Carpenter, 1864, ex Sloat MS (Bernard, 1983a). Length: 57.1 mm (Wagner & Abbott, 1990).
- 456 *Chione* (*C.*) *purpurissata* (Dall, 1902). As *Chionopsis* (*Puberella*) *pubera* (Bory de St. Vincent, 1827) with synonym *Chionopsis olssoni* Fischer-Piette, 1968 [453] (Fischer-Piette & Vukadinovic, 1977). As *Chione purpurissata* (Bernard, 1983a). Include off Bahía San Carlos, Sonora, México, in distribution. Depth: 80 m (F. & L. Poorman, 1988). Extend distribution south to Bahía Cocos, Costa Rica (Skoglund, 1990a). Extend distribution south to Guayas, Ecuador (Skoglund, 1990b). Extend distribution north to Isla de Gorgona, Colombia (Cantera-K., 1991). Include Isla Clarión, Islas Revillagigedo, México, in distribution (Emerson, 1995).

Subgenus *Iliochione* Olsson, 1961

- *Chione* (*I.*) *broggi* (Pilsbry & Olsson, 1943). Distribution: 4°S-33°S. Depth: intertidal zone to 5 m (Bernard, 1983a). Delete here. Genus changed. See *Iliochione broggi* (Pilsbry & Olsson, 1943).
- 457 *Chione* (*I.*) *subrugosa* (Wood, 1828). Hinge figured. Synonyms: *Venus triradiata* Anton, 1839; *Anomalocardia broggi* Pilsbry & Olsson, 1943 (Fischer-Piette & Vukadinovic, 1977). Delete *Anomalocardia broggi* as a synonym. Include the Islas Galápagos, Ecuador, in distribution (Bernard, 1983a). Occurrence in the Islas Galápagos doubtful (Finet, 1985). Delete Galápagos distribution (Bernard, McKinnell & Jamieson, 1991). Delete here. Genus changed. See *Iliochione subrugosa* [457].

Subgenus *Lirophora* Conrad, 1863

- 458 *Chione* (*L.*) *discrepans* (Sowerby, 1835). Delete here. Genus changed. See *Lirophora discrepans* [458].
- 459 *Chione* (*L.*) *kellettii* (Hinds, 1845). Depth: 27-114 m (Hendrickx, van der Heiden & Toledano Granados, 1984). Length: 75 mm (Wagner & Abbott, 1990). Delete here. Genus changed. See *Mercenaria kellettii* [459].
- 460 *Chione* (*L.*) *mariae* (d'Orbigny, 1846). Include the Islas Galápagos, Ecuador, in distribution (Bernard, 1983a). Occurrence in the Islas Galápagos doubtful (Finet, 1985). Galápagos distribution restated (Bernard, McKinnell & Jamieson, 1991). Delete here. Genus changed. See *Lirophora mariae* [460].
- 461 *Chione* (*L.*) *obliterata* Dall, 1902. Distribution: 9°N-19°N (Bernard, 1983a). Extend distribution north to Yavaros, Sonora, México (García-Cubas & Reguero, 1987). Delete here. Genus changed. See *Lirophora obliterata* [461].

Subgenus *Timoclea* Brown, 1827

- *Chione* (*T.*) *picta* (Willett, 1944). Include near San Felipe, Baja California, México, in distribution (DuShane & Brennan, 1969). Distribution: 17°N-29°N, intertidal zone to 50 m (Bernard, 1983a). Delete here. As a synonym. See *Chione squamosa* (Carpenter, 1857) [463].
- 463 *Chione* (*T.*) *squamosa* (Carpenter, 1857). *Chione*

squamosa as a synonym of *T. troglodytes* Mörch, 1861 (Fischer-Piette & Vukadinovic, 1977). As a valid species. Depth: 10 to 50 m (Bernard, 1983a). Synonym: *Chione picta* Willett, 1944. Distribution confirmed to San Felipe, Baja California, México, intertidal zone. Length: 15 mm (Gemmell, Myers & Hertz, 1987). Delete here. Genus changed. See *Timoclea squamosa* [463].

Genus *Globivenus* Coen, 1934

Synonym: *Ventricolaria* Keen, 1954 (Turgeon *et al.*, 1988).

- *Globivenus fordii* (Yates, 1890). Lectotype figured (Scott, Hochberg & Roth, 1990). Distribution: Monterey, California, to Punta San Pablo, Baja California Sur, and the central Golfo de California, México (Coan, Valentich Scott & Bernard, 2000).
- 381 *Globivenus isocardia* (Verrill, 1870). As *Verticordia isocardia*. Extend distribution to the Islas Galápagos, Ecuador (Shasky, 1989). Length: 113.2 mm (Wagner & Abbott, 1990). Include Isla del Coco, Costa Rica, in distribution (Bernard, McKinnell & Jamieson, 1991). As *Globivenus isocardia*. Include Rocas Alijos, México, in distribution. Depth: 20 to 90 m (McLean & Coan, 1996).
- *Globivenus lavezzarii* (Fischer-Piette, 1975). As *Venus*. Perú. Exact locality unknown (Fischer-Piette, 1975).
- 382 *Globivenus magdalenae* (Dall, 1902).

Genus *Iliochione* Olsson, 1961

As a genus (Roopnarine, 1996).

- *Iliochione broggi* (Pilsbry & Olsson, 1943).
- 457 *Iliochione subrugosa* (Wood, 1828).

Genus *Lirophora* Conrad, 1863

As a genus (Roopnarine, 1996).

- 458 *Lirophora discrepans* (Sowerby, 1835).
- 460 *Lirophora mariae* (d'Orbigny, 1846). Length: 29.5 mm (Norrid, 2000).
- 461 *Lirophora obliterata* (Dall, 1902).

Genus *Mercenaria* Schumacher, 1817

- 464 *Mercenaria apodema* (Dall, 1902). Delete. Probably a ballast shell referable to an Atlantic

species (Bernard, 1983a).

- 459 *Mercenaria kellettii* (Hinds, 1845). Genus changed. Shell and hinge plate figured (Harte, 1992). Size: 75 mm (Hutsell, Hutsell & Pisor, 1997).

Genus *Periglypta* Jukes-Browne, 1914

- 380 *Periglypta multicostata* (Sowerby, 1835). Synonym: *Cytherea caesarina* Dall, 1903 (Tardin Cassab, 1984). Include the Islas Galápagos, Ecuador, in distribution (Finet, 1985). Include off Bahía San Carlos, Sonora, México, in distribution. Depth to 20 m (F. & L. Poorman, 1988). Delete synonym. *Cytherea caesarina* Dall, 1903, is a valid Caribbean fossil species (Pauley, pers. comm., 1991). Reproductive cycle figured (García-Domínguez *et al.*, 1998). Size: 153.1 mm (Hutsell, Hutsell & Pisor, 1999).

Genus *Protothaca* Dall, 1902

Synonym: *Tropithaca* Olsson, 1961 (Coan, Valentich Scott & Bernard, 2000).

Subgenus *Protothaca*, s. s.

- 473 *Protothaca* (*P.*) *grata* (Say, 1831). Hinge figured (Fischer-Piette & Vukadinovic, 1977). Synonym: *Venus neglecta* Philippi, 1844, *non* Sowerby, 1839. Include the Islas Galápagos, Ecuador, in distribution (Bernard, 1983a). Length: 49.5 mm (Draper, 1987).
- *Protothaca* (*P.*) *staminea* (Conrad, 1837). Synonyms: *Venerupis petittii* Deshayes, 1839; *Tapes rudrata* Deshayes, 1853; *T. staminea orbella* Carpenter, 1864; *Protothaca staminea spatiosa* Dall, 1916. Distribution: Aleutian Islands to Cabo San Lucas, Baja California Sur, México. Depth: shore to 46 m (Hertlein & Grant, 1972). Synonyms: *Venus pectunculoides* Valenciennes, 1846; *Tapes diversa* Sowerby, 1855; *Venus dispar* Carpenter, 1857; *V. ampliata* Carpenter, 1857; *V. mundulus* Reeve, 1863; *Leukoma conradi* Römer, 1867; *Paphia* (*Protothaca*) *staminea sulculosa*, Dall, 1902; *Protothaca grewingkii* Dall, 1904. Distribution: 23°N-60°N, intertidal zone to 10 m (Bernard, 1983a). An isolated population occurs at the head of the Golfo de California, México (Bernard, McKinnell & Jamieson, 1991). Size: 82 mm (Hutsell, Hutsell & Pisor, 1997). Synonyms: *Venus rigida* A. A. Gould, 1850, *non* Dillwyn,

1817; *Tapes tumida* Carpenter, 1857. Distribution: Aleutian Islands to Bahía Santa Maria, Baja California Sur, and possibly to Cabo San Lucas. Also from the western Pacific (Coan, Valentich Scott & Bernard, 2000).

Subgenus *Antinioche* Olsson, 1961

- 465 *Protothaca* (*A.*) *beili* (Olsson, 1961). As *Nioche* by Fischer-Piette & Vukadinovic (1977). Extend distribution north to the Golfo de Fonseca, El Salvador (Hernández, 1979). As *Protothaca* by Bernard (1983a).

Subgenus *Colonche* Olsson, 1961

- 466 *Protothaca* (*C.*) *ecuadoriana* (Olsson, 1961). As *Nioche* by Fischer-Piette & Vukadinovic (1977), and *Protothaca* by Bernard (1983a). Length: 38 mm (Cantera-K., 1991).

Subgenus *Leukoma* Römer, 1857

- 467 *Protothaca* (*L.*) *asprerrima* (Sowerby, 1835). Placed in genus *Nioche* as a synonym of *Nioche cardilla* Lamarck, 1818 (Fischer-Piette & Vukadinovic, 1977). A valid species. Delete *Tapes tumida* Sowerby, 1853, as a synonym. Include the Islas Galápagos, Ecuador, in distribution (Bernard, 1983a). Occurrence in the Islas Galápagos doubtful (Finet, 1985). Length: 63.9 mm (Draper, 1987). Correct date on synonym *Venus intersecta* to Sowerby, 1853 (Coan, pers. comm., 1990). Delete Galápagos distribution (Bernard, McKinnell & Jamieson, 1991).
- 468 *Protothaca* (*L.*) *macgintyi* (Olsson, 1961). As *Nioche* by Fischer-Piette & Vukadinovic (1977). As *Protothaca*. Change spelling from *mcgintyi* (Bernard, 1983a).
- 469 *Protothaca* (*L.*) *metodon* (Pilsbry & Lowe, 1932). Placed in genus *Nioche* by Fischer-Piette & Vukadinovic (1977), and *Protothaca* by Bernard (1983a). Length: 46.4 mm (Draper, 1987). Extend distribution south to Tumaco, Colombia (Cantera-K., 1991).
- 470 *Protothaca* (*L.*) *subaequilateralis* (Fischer-Piette, 1969). Placed in *Nioche* by Fischer-Piette & Vukadinovic (1977), and *Protothaca* by Bernard (1983a).
- 471 *Protothaca* (*L.*) *zorritensis* (Olsson, 1961). Hinge

figured. As genus *Nioche* by Fischer-Piette & Vukadinovic (1977). As *Protothaca*. Include the Islas Galápagos, Ecuador, in distribution (Bernard, 1983a). Occurrence in the Islas Galápagos doubtful (Finet, 1985). Galápagos distribution restated (Bernard, McKinnell & Jamieson, 1991). Length: 27 mm. Extend distribution north to Tumaco, Colombia (Cantera-K., 1991).

Subgenus *Notochione*
Hertlein & Strong, 1948

- 472 *Protothaca* (*N.*) *columbiensis* (Sowerby, 1835). Extend distribution north to Laguna de Topolobampo, Sinaloa, México (García-Cubas & Reguero, 1987). Length: 59.6 mm (Draper, 1987).

Genus *Timoclea* Brown, 1827
As a genus (Fischer-Piette & Vukadinovic, 1977).

- 463 *Timoclea squamosa* (Carpenter, 1857).

Genus *Ventricolaria* Keen, 1954

- *Ventricolaria fordii* (Yates, 1890). As genus *Circomphalus* (Abbott, 1974). As *Ventricolaria*. Distribution: 28°N-37°N (Bernard, 1983a). Length: 75.2 mm (Draper, 1987). Extend distribution into the Golfo de California at Isla Smith, Bahía de los Angeles, Baja California, México (Skoglund, 1988). Delete here. Genus changed. See *Globivenus fordii* (Yates, 1890).
- 381 *Ventricolaria isocardia* (Verrill, 1870). Extend distribution to Manta, Ecuador (Olsson, 1961). On the basis of a study of illustrations, *Ventricolaria isocardia* is placed in the synonymy of Caribbean *V. rigida* (Dillwyn, 1817) (Fischer-Piette, 1975). Extend distribution south to Punta Picos, Perú (Alamo & Valdivieso, 1987). Delete here. Genus changed. See *Globivenus isocardia* [381].
- 382 *Ventricolaria magdalenae* (Dall, 1902). Extend distribution north to Bahía San Carlos, Sonora, México. Depth: 110 m (F. & L. Poorman, 1988). Delete here. Genus changed. See *Globivenus magdalenae* [382].

Subfamily CIRCINAE

Genus *Gouldia* C. B. Adams, 1847
Subgenus *Gouldia*, s. s.

- 383 *Gouldia* (*G.*) *californica* Dall, 1917. Include Puertecitos, Baja California, México, in distribution (DuShane, 1962). Extend distribution south to Ecuador (Abbott, 1974). Bernard (1983a) includes the Islas Galápagos, Ecuador, but gives the distribution as 8°N-26°N. Distribution to the Islas Galápagos, Ecuador, restated (Finet, 1985). Include Isla del Coco, Costa Rica, in distribution (Bernard, McKinnell & Jamieson, 1991).

Subfamily MERETRICINAE

Genus *Tivela* Link 1807
Subgenus *Tivela*, s. s.

- 384 *Tivela* (*T.*) *argentina* (Sowerby, 1835). Extend distribution south to Tumbes, Perú (Peña, 1971). Extend distribution to western side of the Golfo de California at San Felipe, Baja California, México (Gemmell, Hertz & Myers, 1980). Distribution: 2°S-31°N (Bernard, 1983a). Length: 62.2 mm (Wagner & Abbott, 1990).
- 385 *Tivela* (*T.*) *byronensis* (Gray, 1838). Extend distribution south to Tumbes, Perú (Peña, 1971). Depth to 90 m (Cruz-P., 1977). Add synonyms: *Tivela elegans* Verrill, 1870; *Mactra calbucana* Philippi, 1893; *M. coquimbana* Philippi, 1893. Include the Islas Galápagos, Ecuador, in distribution (Bernard, 1983a). Occurrence in the Islas Galápagos doubtful (Finet, 1985). Length: 61.3 mm (Draper, 1987). Extend distribution south to Los Organos, Perú (Alamo & Valdivieso, 1987). Delete Galápagos distribution (Bernard, McKinnell & Jamieson, 1991).
- 386 *Tivela* (*T.*) *delessertii* (Sowerby, 1854). Include Isla Socorro, Islas Revillagigedo, México, in distribution (Bartsch & Rehder, 1938). Add synonym: ?*Tivela marginata* "Carpenter" Berry, 1907 (Bernard, 1983a). Delete ?*Tivela marginata* "Carpenter" Berry, 1907, as a synonym (Coan, 1984b).

Subgenus *Pachydesma* Conrad, 1854

- *Tivela* (*P.*) *stultorum* Mawe, 1854. Synonym: *Cytherea* (*Trigoella*) *crassatelloides* Conrad, 1837. Length: 187 mm. Distribution: Marin County, California, to Bahía Magdalena, Baja California Sur, México. Depth: intertidal zone to 24 m (Hertlein & Grant, 1972). Synonyms: *Cytherea*

solidissima Philippi, 1851; *C. (Tivela) crassatelloides pauciradiata, multiradiata, alternata, eccentrica, serialis, interrupta, luteobrunnea, uniradiata, biradiata, triradiata, ochracea, purpureochocolata, biserialis, triserialis, aurora, duplicata*: all Stearns, 1899. Distribution: 25°N-37°N, intertidal zone to 5 m (Bernard, 1983a). Add synonyms: *Cytherea virginea* A. Adams & Reeve, 1850; *Tivela scarificata* Berry, 1940. Neotype for *T. stultorum* selected and figured. Lectotype for synonym, *T. crassatelloides* (Conrad, 1837), selected and figured. Lectotypes selected for all the Stearns, 1899, synonyms. Distribution: Stimpson Beach, California to Bahía Magdalena, Baja California Sur, México. Depth: intertidal zone to 30 m (Coan, 1996a). Size: 176 mm (Hutsell, Hutsell & Pisor, 1997).

Subgenus *Planitivela* Olsson, 1961

- 389 *Tivela (P.) hians* (Philippi, 1851). Delete here. As a synonym of *Tivela lessonii* (Deshayes, 1830), which has a distribution (12°S-30°S) outside of the Panamic Province (Bernard, 1983a).
- *Tivela (P.) lessonii* (Deshayes, 1830). Synonym: *Tivela (P.) hians* (Philippi, 1851) [398]. Distribution is south of the Panamic Province (Bernard, 1983a). Recorded from Bahía Magdalena, Baja California Sur, México (Luke, 1995).
- 390 *Tivela (P.) planulata* (Broderip & Sowerby, 1830). Extend distribution south to Máncora, Perú (Peña, 1971). Extend distribution south to Paíta, Perú (Alamo & Valdivieso, 1987). Length: 64.9 mm (Draper, 1989). Include Bahía Magdalena, Baja California Sur, México, in distribution (Luke, 1995).

Subfamily PITARINAE

Genus *Pitar* Römer, 1857

Subgenus *Pitar*, s. s.

- 397 *Pitar (P.) berryi* Keen, 1971. Distribution: 21°N-23°N. Depth: 15 to 40 m (Bernard, 1983a). Length: 51 mm (Draper, 1987). Extend distribution north to Bahía San Carlos, Sonora, México (F. & L. Poorman, 1988).
- 398 *Pitar (P.) consanguineus* (C. B. Adams, 1852).

Distribution: 1°S-16°N, including the Islas Galápagos, Ecuador (Bernard, 1983a). Include Isla de Gorgona, Colombia, in distribution (von Prah, 1986). Extend distribution north to Laguna Barra de Navidad, Jalisco, México (Rodríguez-Cajiga, 1993). Extend distribution north to off Cabo San Miguel, Baja California, México (Hendrickx & Toledano Granados, 1994).

- 400 *Pitar (P.) fluctuatus* (Sowerby, 1851). Length: 62 mm (Cantera-K., 1991).
- 401 *Pitar (P.) helenae* Olsson, 1961. Include off Roca Consag, Golfo de California, México, in distribution (Dushane & Brennan, 1969). Extend distribution south to the Islas Galápagos, Ecuador (Finet, 1985). Include Isla de Gorgona, Colombia, in distribution (von Prah, 1986). Include near San Felipe, Baja California, México, in distribution (Gemmell, Myers & Hertz, 1987).
- *Pitar (P.) newcombianus* (Gabb, 1865). Distribution: Monterey, California, to Punta [Puerto] Peñasco, Sonora, and south to Guatulco, Oaxaca; Isla Clarión, Islas Revillagigedo, México (Hertlein & Grant, 1972). Depth: 45 to 220 m (Bernard, 1983a). Delete. Distribution is north of the Panamic Province. See *Pitar helenae* Olsson, 1961 [401], for similar Panamic species (Coan, Valentich Scott & Bernard, 2000).
- 403 *Pitar (P.) perfragilis* Pilsbry & Lowe, 1932. Extend distribution to south of San Felipe, Baja California, México (DuShane & Brennan, 1969). Length: 11.4 mm (Draper, 1972). Extend distribution south to the Golfo de Guayaquil, Ecuador (Cruz-P., 1983). Extend distribution across the Golfo de California to Bahía San Carlos, Sonora, México. Depth: 100 m (F. & L. Poorman, 1988). Include Isla Smith, Bahía de los Angeles, Baja California, México, in distribution. Depth: 14 to 183 m (Skoglund, 1988). Include Bahía Cocos, Guanacaste, Costa Rica, in distribution (Skoglund, 1990a). Include the Islas Galápagos, Ecuador, in distribution (Bernard, McKinnell & Jamieson, 1991). Length: 13 mm (Norrid, 2000).

Subgenus *Hyphantosoma* Dall, 1902

- 404 *Pitar (H.) aletes* Hertlein & Strong, 1948. Holotype figured (Harte, 1993).
- 405 *Pitar (H.) hertleini* Olsson, 1961. Length: 48 mm (Draper, 1987). Extend distribution north to

Nayarit, México (Reguero & García-Cubas, 1989). Length: 55 mm (Cantera-K., 1991). Include Isla del Coco, Costa Rica, in distribution (Bernard, McKinnell & Jamieson, 1991). Extend distribution north to Baja California, México (Harte, 1993).

- 406 *Pitar (H.) pollicaris* (Carpenter, 1864). Include Puertecitos, Baja California, México, in distribution (DuShane, 1962). Distribution: 26°N-29°N. Depth: intertidal zone to 15 m (Bernard, 1983a). Include San Felipe, Baja California, México, in distribution (Gemmell, Myers & Hertz, 1987). Length: 86.4 mm (Draper, 1987). Include off Bahía San Carlos, Sonora, México, in distribution. Depth: 20 m (F. & L. Poorman, 1988). Extend distribution south to Colombia (Harte, 1993). Size: 87.1 mm (Hutsell, Hutsell & Pisor, 1997).

Subgenus *Hysteroconcha* Dall, 1902
Juvenile spine development (Skoglund, 1976).

- 407 *Pitar (H.) brevispinosus* (Sowerby, 1851). Length: 48 mm (Cantera-K., 1991). Figured. Delete Golfo de California, México, from distribution. Distribution: Nicaragua to Ecuador (Skoglund, 2000b).
- 408 *Pitar (H.) lupanaria* (Lesson, 1830). Extend distribution south to Paita, Perú (Alamo & Valdivieso, 1987). Length: 96.5 mm (Wagner & Abbott, 1990). Size: 100 mm (Hutsell, Hutsell & Pisor, 1997). Growth series showing spine development figured (Skoglund, 2000b).
- 409 *Pitar (H.) multispinosus* (Sowerby, 1851). Length: 51.4 mm (Draper, 1987). Growth series showing spine development figured (Skoglund, 2000b).
- 410 *Pitar (H.) roseus* (Broderip & Sowerby, 1829). Extend distribution south to Perú (Abbott, 1974). Confirm distribution to Esmeraldas Province, Ecuador (Baldazzi, Di Cecco & Tiberi, 1986). Length: 53.4 mm (Draper, 1987). Correct synonym to read: *Cytherea lepida* Chenu, *autt.*, *non* Chenu, 1847 (Coan, pers. comm., 1990). Size: 54.4 mm (Hutsell, Hutsell & Pisor, 1997). Growth series showing spine development figured (Skoglund, 2000b).

Subgenus *Lamelliconcha* Dall, 1902

- 411 *Pitar (L.) alternatus* (Broderip, 1835). Add synonym: *Dione pura* Deshayes, 1853 (Bernard, 1983a).

- 412 *Pitar (L.) callicomatus* (Dall, 1902). Extend distribution north to Nayarit, México (Reguero & García-Cubas, 1989).
- 413 *Pitar (L.) concinnus* (Sowerby, 1835). Length: 45.8 mm (Draper, 1987).
- 414 *Pitar (L.) frizzelli* Hertlein & Strong, 1948. Extend distribution north to Bahía San Carlos, Sonora, México. Depth: 35 to 100 m (F. & L. Poorman, 1988). Extend distribution north to Isla Smith, Bahía de Los Angeles, Baja California, México. Depth: 45 to 75 m (Norrid, 2000).
- 415 *Pitar (L.) hesperius* Berry, 1960. Holotype figured (C. Hertz, 1984). Length: 48.2 mm (Draper, 1987). Size: 53.2 mm (Hutsell, Hutsell & Pisor, 1997). Extend distribution north in the Golfo de California, México, to off Roca Consag (Hendrickx & Toledano Granados, 1994).
- 416 *Pitar (L.) paytensis* d'Orbigny, 1845. Depth: 91 m (Cruz-P., 1977). Add synonym: *Pitar (L.) salanga* Pilsbry & Olsson, 1941 (Bernard, 1983a). Extend distribution south to Paita, Perú (Alamo & Valdivieso, 1987). Length: 40 mm (Cantera-K., 1991). Size: 45.7 mm (Hutsell, Hutsell & Pisor, 1997).
- 417 *Pitar (L.) tortuosus* (Broderip, 1835). Extend distribution south to Tumbes, Perú (Peña, 1971). Distribution: 3°S-28°N (Bernard, 1983a).
- 418 *Pitar (L.) unicolor* (Sowerby, 1835). Extend distribution north to the Golfo de California, México (Abbott, 1974). Length: 58.4 mm (Draper, 1987). Distribution confirmed to Nayarit, México (Reguero & García-Cubas, 1989). Include off Teacapán, Sinaloa, México, in distribution (Hendrickx & Toledano Granados, 1994).
- 419 *Pitar (L.) vinaceus* (Olsson, 1961). Length: 34.8 mm (Draper, 1987). Extend distribution north to Bahía de Mazatlán, Sinaloa, México (Hendrickx & Toledano Granados, 1994).

Subgenus *Pitarella* Palmer, 1927

- 420 *Pitar (P.) aequinoctialis* (Fischer-Piette, 1969). Extend distribution north to Esmeraldas, Ecuador. Depth: 47 to 90 m (Cruz-P., 1977).
- 421 *Pitar (P.) catharius* (Dall, 1902). Extend distribution south to near Callao, Perú (11°58.5'S) (Valdivieso, 1984). Include off Bahía San Carlos, Sonora, México, in distribution. Depth: 35 to 100 m (F. & L. Poorman, 1988). Include the Islas Galápagos, Ecuador, in distribution (Bernard,

McKinnell & Jamieson, 1991).

- 422 *Pitar* (*P.*) *mexicanus* Hertlein & Strong, 1948. Extend distribution south to Ecuador (Abbott, 1974). Distribution: 9°N-31°N (Bernard, 1983a). Length: 59.2 mm (Draper, 1987).

Subgenus *Tinctora* Jukes-Browne, 1914

- 423 *Pitar* (*T.*) *vulneratus* (Broderip, 1835). Length: 51.9 mm (Draper, 1987).

Genus *Amiantis* Carpenter, 1864

- *Amiantis callosa* (Conrad, 1837). Synonyms: *Cytherea nobilis* Reeve, 1850; *Pitaria stalderi* Clark, 1915; *Antigona willisi* Trask, 1922. Distribution: 23°N-35°N. Depth: 1 to 20 m (Bernard, 1983a). Length: 120.7 mm (Draper, 1987). Distribution: Santa Barbara, California, to Bahía Santa María, Baja California Sur, México. Depth: intertidal zone to 20 m (Coan, Valentich Scott & Bernard, 2000).

Genus *Megapitaria* Grant & Gale, 1931

- 424 *Megapitaria aurantiaca* (Sowerby, 1831). Include the Islas Galápagos, Ecuador, in distribution (Bernard, 1983a). Length: 129.7 mm (Wagner & Abbott, 1990). Distribution: Golfo de California to northern Perú and the Islas Galápagos, Ecuador (Cantera-K., 1991).
- 425 *Megapitaria squalida* (Sowerby, 1835). Include the Islas Galápagos, Ecuador, in distribution (Bernard, 1983a). Occurrence in the Islas Galápagos doubtful (Finet, 1985). Extend distribution south to Paita, Perú (Alamo & Valdivieso, 1987). Include off Bahía San Carlos, Sonora, México, in distribution. Depth to 35 m (F. & L. Poorman, 1988). Two possible races occur in Bahía Concepción, Baja California Sur, México (Anguas Vélez & Castro-Ortiz, 1990). Length: 122 mm (Wagner & Abbott, 1990). Delete Galápagos distribution (Bernard, McKinnell & Jamieson, 1991). Size: 129.5 mm (Hutsell, Hutsell & Pisor, 1997).

Genus *Nutricola* F. R. Bernard, 1982

Synonym: *Psephidia* Dall, 1902. *Nutricola* as a valid genus, close to *Transennella* in the Pitarinae (Coan, Valentich Scott & Bernard, 2000).

- *Nutricola cymata* (Dall, 1913). As genus *Nutricola* (Bernard, 1982). Distribution: southern California to Rocas Alijos, México. Depth: 90 m (McLean & Coan, 1996). Synonym: *Psephidia stephensae* Hertlein & Grant, 1972 (Coan & Scott, 1997).

- 393 *Nutricola humilis* (Carpenter, 1857). Genus changed from *Transennella* by Coan, Valentich Scott & Bernard (2000).

- *Nutricola tantilla* (Gould, 1853). As *Nutricola*. Distribution: Prince William Sound, Alaska, to Isla Cedros, Baja California, México (Coan, Valentich Scott & Bernard, 2000). [Delete. Distribution is north of the Panamic Province.] See *Transennella tantilla*.

Genus *Transennella* Dall, 1884

Correct date from 1883 (Keen & Coan, 1975). Moved from Meretricinae by Coan, Valentich Scott & Bernard (2000).

- 391 *Transennella caryonautes* Berry, 1963. Depth: 20 to 150 m (Bernard, 1983a). Holotype figured (C. Hertz, 1984).

- 393 *Transennella humilis* (Carpenter, 1857). Delete here. Genus changed. See *Nutricola*.

- 394 *Transennella modesta* (Sowerby, 1835). Extend distribution north to near Santa Rosalia, Baja California Sur, México (Draper, 1972). Include the Islas Galápagos, Ecuador, in distribution (Bernard, 1983a). Occurrence in the Islas Galápagos doubtful (Finet, 1985). Extend distribution across the Golfo de California to Bahía San Carlos, Sonora, México (F. & L. Poorman, 1988). Galápagos distribution restated. Include the Islas Revillagigedo, México, in distribution (Bernard, McKinnell & Jamieson, 1991).

- 395 *Transennella omissa* (Pilsbry & Lowe, 1932). Include the Islas Galápagos, Ecuador, in distribution (Bernard, McKinnell & Jamieson, 1991).

- *Transennella tantilla* (Gould, 1853). Extend distribution into the northern Golfo de California, México, to off Roca Consag (DuShane & Brennan, 1969). As subfamily Gemminae, genus *Nutricola* F. R. Bernard, 1982 (Bernard, 1982). As *Transennella*. Gemminae and *Nutricola* should not be used (Lindberg, 1990). A Californian species with an isolated population at the head of the Golfo de California, México (Bernard, McKinnell & Jamieson, 1991). Delete here. Genus changed.

See *Nutricula*.

Subfamily DOSINIINAE

Genus *Dosinia* Gray, 1835

Subgenus *Dosinia*, s. s.

- 426 *Dosinia* (*D.*) *dunkeri* (Philippi, 1844). Add synonym: *Cytherea* (*Artemis*) *angulosa* Philippi, 1847. Include the Islas Galápagos, Ecuador, in distribution (Bernard, 1983a). Extend distribution south to Punta Eten, Perú (Alamo & Valdivieso, 1987). Include off Bahía San Carlos, Sonora, México, in distribution. Depth to 100 m (F. & L. Poorman, 1988). Include the Islas Revillagigedo, México, in distribution (Bernard, McKinnell & Jamieson, 1991).
- 427 *Dosinia* (*D.*) *ponderosa* (Schumacher, 1817). Author changed. Add synonyms: *Artemis distans* Sowerby, 1851; *Dosinia grandis* Nelson, 1870; ?*D. (Dosinidia) titan* Maury, 1925. Include the Islas Galápagos, Ecuador, in distribution (Bernard, 1983a). Length: 156.5 mm (Draper, 1987).
- 428 *Dosinia* (*D.*) *semiobliterata* Deshayes, 1853. Add synonym: *Artemis nanus* Reeve, 1850 (Bernard, 1983a). Length: 73.7 mm (Draper, 1987).

Subfamily CYCLININAE

Delete. Should be discarded (Harte, 1998).

Genus *Cyclinella* Dall, 1902

Moved from Cyclininae to Dosiniinae (Harte, 1998; Coan, 2000a)

- 429 *Cyclinella jadisi* Olsson, 1961. Length: 50.9 mm (Draper, 1987). Extend distribution north to Bahía San Carlos, Sonora, México. Depth: 35 m (F. & L. Poorman, 1988). Distribution: head of the Golfo de California, México, to Guayas Province, Ecuador. Depth: intertidal zone to 31 m (Coan, 2000a).
- 430 *Cyclinella producta* (Carpenter, 1856). Synonym: *Cyclinella singleyi* Dall, 1902 [432]. Distribution: Laguna Ojo de Liebre, Pacific coast of Baja California Sur, throughout the Golfo de California, México, to Tumbes Province, Perú, on intertidal mudflats (Coan, 2000a).
- 431 *Cyclinella saccata* (Gould, 1851). Length: 68.4 mm (Draper, 1987). Extend distribution south to Bahía Ballena, Costa Rica (Cruz, 1996). Delete here. As a synonym. See *Cyclinella subquadrata* (Hanley,

1844) [433].

- 432 *Cyclinella singleyi* Dall, 1902. Extend distribution south to Tumbes, Perú (Peña, 1971). Synonym: *Cyclinella galera* Pilsbry & Olsson, 1941 (Bernard, 1983a). Delete here. As a synonym. See *Cyclinella producta* (Carpenter, 1856) [430].
- 433 *Cyclinella subquadrata* (Hanley, 1845). Extend distribution north into the Golfo de California off Bahía San Carlos, Sonora, México (DuShane & Poorman, 1967). Include the Islas Galápagos, Ecuador, in distribution (Bernard, 1983a). Occurrence in the Islas Galápagos doubtful (Finet, 1985). Galápagos distribution restated (Bernard, McKinnell & Jamieson, 1991). Synonyms: *Venus kroeyeri* Philippi, 1847; *Artemis macilenta* Reeve, 1850; *Arthemis saccata* Gould, 1851; *Cyclinella galera* Pilsbry & Olsson, 1941; *C. kroeyeri ulloana* Hertlein & Strong, 1948. Distribution: Isla Cedros, Pacific coast of Baja California, throughout the Golfo de California, México, to Lima Province, Perú (Coan, 2000a).
- 434 *Cyclinella ulloana* Hertlein & Strong, 1948. Distribution confirmed to off Bahía Tepoca, Sonora, México (Hendrickx & Toledano Granados, 1994). Delete here. As a synonym. See *Cyclinella subquadrata* (Hanley, 1845) [433].

Subfamily CLEMENTINIINAE

Genus *Clementia* Gray, 1842

Subgenus *Egesta* Conrad, 1845

- 435 *Clementia* (*E.*) *solida* Dall, 1902. Subgenus changed from *Clementia*, s. s. (Bernard, 1983a). Length: 71.9 mm (Wagner & Abbott, 1990).

Subgenus *Clementia* s. l.

- 436 *Clementia gracillima* Carpenter, 1857. Delete. *Nom. dub.* (Bernard, 1983a).

Genus *Compsomyx* Stewart, 1930

- 437 *Compsomyx subdiaphana* (Carpenter, 1864). Synonyms: *Saxidomus gibbosus* Gabb, 1869; *Callista subdiaphana pedroana* Arnold, 1903; *Clementia obliqua* Jukes-Brown, 1913 (Bernard, 1983a). Depth: 55 to 80 m (Scott & Nybakken, 1994). Length: 84 mm (Wagner & Abbott, 1990). Delete. Distribution is north of the Panamic

Province (Valentich Scott, 1998). Synonym: *Meretrix itzukai* Yokoyama, 1925. Distribution: Alaska to Bahía San Quintín, Baja California, and Puertecitos in the Golfo de California, México (Coan, Valentich Scott & Bernard, 2000).

Subfamily TAPETINAE

Genus *Eurhomalea* Crossmann, 1920

- *Eurhomalea decussata* (Deshayes, 1853). Distribution: 4°S-13°S. Intertidal zone (Bernard, 1983a).

Genus *Irus* Schmidt, 1818

Subgenus *Paphonotia* Hertlein & Strong, 1948

- 438 *Irus* (*P.*) *ellipticus* (Sowerby, 1834). Add synonyms: ?*Petricola discors* Sowerby, 1834; *Venerupis fimbriata* Sowerby, 1855. Correct date on synonym *Petricola oblonga* to Sowerby, 1834, and of *P. solidula* to Sowerby, 1855 (Bernard, 1983a). Extend distribution south to Playa Delfín, Sinaloa, México (Hendrickx & Toledano Granados, 1994).

Genus *Psephidia* Dall, 1902

- 439 *Psephidia cymata* Dall, 1913. Distribution off Isla Cedros, México (Dall, 1913). Extend distribution into the Golfo de California, México, to off Roca Consag (DuShane & Brennan, 1969). Delete here. Genus changed. See *Nutricola*.

Family **NEOLEPTONIDAE** Thiele, 1934

Synonym: Bernardinidae, Keen, 1969. Moved from Arcticea to Cyamioidea (Coan, 1984). Neoleptonidae moved to the Veneroidea by Salas & Gofas (1998).

Genus *Bernardina* Dall, 1910

- 264 *Bernardina margarita* (Carpenter, 1857). Lectotype figured. Distribution: Isla Guadalupe, west coast of Baja California; the Golfo de California to Guaymas, Sonora, and south to Bahía de Banderas, Jalisco, México. Depth: intertidal zone to 21 m (Coan, 1984b). Include Rocas Alijos, México, in distribution. Depth: 90 m (McLean & Coan, 1996).

Genus *Halodakra* Olsson, 1961

- 265 *Halodakra subtrigona* (Carpenter, 1857). Delete here. Genus changed. See *Neolepton subtrigona* [265].

Genus *Neolepton* Monterosato, 1875

Synonym: *Halodakra* Olsson, 1961 (Salas & Gofas, 1998).

- 265 *Neolepton subtrigona* (Carpenter, 1857). Lectotype figured. Distribution: Tomales Bay, Marin County, California, to and throughout the Golfo de California, México, to Perú. Depth: intertidal zone to 24 m (Coan, 1984b). Include the Islas Galápagos, Ecuador, in distribution (Coan, 1989). Include Isla del Coco, Costa Rica, in distribution (Bernard, McKinnell & Jamieson, 1991). Include Rocas Alijos, México, in distribution. Depth: 20 to 90 m (McLean & Coan, 1996). Genus changed from *Halodakra* (Salas & Gofas, 1998).

Subgenus *Stohleria* Coan, 1984

- *Neolepton* (*S.*) *salmonea* (Carpenter, 1864). Synonyms: *Crassatella marginata* Keep, 1887; *Psephidia brunnea* Dall, 1916. Distribution: Oregon to Punta San Hipólito, Baja California Sur, México (Coan, 1984). Extend distribution south to include Rocas Alijos, México. Depth: 20 to 90 m (McLean & Coan, 1996). Extend distribution north to Banks Island, British Columbia, Canada. Depth: 20-99 m (Valentich Scott, 1998). Genus changed from *Halodakra* (Salas & Gofas, 1998).

Family PETRICOLIDAE

Genus *Petricola* Lamarck, 1801

Synonyms: *Naranio* Gray, 1853; *Pseudoirus* Habe, 1951 (Coan, 1997a).

Subgenus *Petricola*, s. s.

- *Petricola* (*P.*) *botula* Olsson, 1961. Valid species. Distribution: Mazatlán, México, to Panamá (Coan, 1996b). Holotype figured. Length: 14.4 mm. Distribution: Mazatlán, Sinaloa, México, to Bahía Chame, Los Santos Province, Panamá, boring in rock or clay (Coan, 1997a).
- *Petricola* (*P.*) *carditoides* (Conrad, 1837). As *Petricola*. Length: 40 mm. Depth: intertidal zone

- to offshore. Distribution: Vancouver Island, British Columbia, Canada, to Bahía Magdalena, Baja California Sur, México (McLean, 1978). As *Petricola* (*Rupellaria*). Distribution (28°N-57°N) is north of the Panamic Province (Bernard, 1983a). As *Petricola* (*Petricola*). Distribution: southeast Alaska to southern Baja California, México (Coan, 1996). Size: 42.5 mm (Hutsell, Hutsell & Pisor, 1997). Delete. Distribution: Sitka Island, Alaska, to Punta Pequeña, Baja California, México (26.2°N). Reports from Bahía Magdalena, Baja California Sur, and Mazatlán, Sinaloa, México, require additional verification (Coan, 1997a).
- 475 *Petricola* (*P.*) *charapota* Olsson, 1961. Delete here. As a synonym. See *Petricola lucasana* Hertlein & Strong, 1948 [477].
- 476 *Petricola* (*P.*) *exarata* (Carpenter, 1857). Extend distribution south to Máncora, Perú (Peña, 1971). Add synonyms: *Petricola anachoreta* De Folin, 1867; *Cypricardia noemi* De Folin, 1867 (Bernard, 1983a). Delete here. Subgenus unassigned. See *Petricola* s.l.
- *Petricola* (*P.*) *linguafelis* (Carpenter, 1857). Synonyms: *Petricola scobina* Conrad, 1857; *P. noemi* de Folin, 1867. Length: 7 mm. Distribution: Baja California Sur and Sinaloa, México, to Ecuador (Coan, 1996b). Synonyms: “?Naranio” *scobina* Carpenter, 1857 (holotype figured); *Cypricardia noemi* de Folin, 1867 (lectotype figured). Lectotype designated and figured. Distribution: Bahía Pulmo, Baja California Sur, México, to Salinas, Guayas, Ecuador. Intertidal zone to 3 m in rocky areas (Coan, 1997a).
- 477 *Petricola* (*P.*) *lucasana* Hertlein & Strong, 1948. Extend distribution across the Golfo de California, to Puertecitos, Baja California, México (DuShane, 1962). Extend distribution north to San Felipe, Baja California, México (Gemmell, Myers & Hertz, 1987). Extend distribution south to Nicaragua (Montoya, López & López, 1987). Length: 50.3 mm (Draper, 1987). Synonym: *Petricola charapota* Olsson, 1961 [475]. Distribution: Puerto Peñasco, Sonora, México, to Ecuador (Coan, 1996b). Holotype figured. Holotype of synonym, *P. charapota*, figured. Distribution: throughout the Golfo de California from its head at Puerto Peñasco, Sonora, México, to Salinas, Guayas Province, Ecuador. Intertidal zone to 30 m in calcareous substrata, such as corals. Length: 43.5 mm (Coan, 1997a).
- Subgenus *Petricolaria* Stoliczka, 1870
- *Petricola* (*P.*) *amygdalina* Sowerby, 1834. Distribution: 3°S-2°N, including the Islas Galápagos, Ecuador. Depth: intertidal zone to 10 m (Bernard, 1983a). Occurrence in the Islas Galápagos doubtful (Finet, 1985). Delete Galápagos distribution (Bernard, McKinnell & Jamieson, 1991). Delete. *Nomen dubium* (Coan, 1997a).
- 478 *Petricola* (*P.*) *cognata* C.B. Adams, 1852. Extend distribution north to Laguna de Topolobampo, Sinaloa, México (García-Cubas & Reguero, 1987). Delete here. Genus changed. See *Petricolaria cognata* [478].
- 479 *Petricola* (*P.*) *concinna* Sowerby I, 1834. Include the Islas Galápagos, Ecuador, in distribution (Bernard, McKinnell & Jamieson, 1991). Delete here. Subgenus changed. See *Petricola* (*Petricolirus*) *concinna* [479].
- 480 *Petricola* (*P.*) *gracilis* Deshayes, 1853. Extend distribution south to the Golfo de Guayaquil, Ecuador (Cruz-P., 1983). Synonym: *Petricola gracilis parallela* Pilsbry & Lowe, 1932 [480] (Bernard, 1983a). Include Los Santos Province, Panamá, in distribution (García & Pelesca, 1984). Length: 74.1 mm (Draper, 1987). Delete here. As a synonym. See *Petricolaria cognata* [478].
- Subgenus *Petricolirus* Habe, 1951
- *Petricola* (*P.*) *californiensis* Pilsbry & Lowe, 1932. Holotype figured. Distribution: Santa Barbara County, California, to Oaxaca, México (Coan, 1996b). Holotype figured. Distribution: Bolinas, Marin County, California, to Bahía Magdalena, Baja California Sur, México, and on the west coast of México from Puerto Peñasco, Sonora, to Bahía Ventosa, Oaxaca. Nesting in a variety of substrates including driftwood, kelp holdfasts and clumps of annelid worm tubes. Length: 42.2 mm (Coan, 1997a).
- 479 *Petricola* (*P.*) *concinna* G. B. Sowerby I, 1834. Subgenus changed from *Petricola*. Syntype figured. Distribution: Esmeraldas, Esmeraldas Province, to La Libertad, Guayas Province, and the Islas Galápagos, Ecuador (Coan, 1996b). Lectotype designated and figured. Length: 21.1 mm. Depth: intertidal zone to 18 m (Coan, 1997a). Extend distribution north to Masachapa, Carazo Province,

Nicaragua (Coan, 1998a).

- 481 *Petricola* (**P.**) *denticulata* G. B. Sowerby I, 1834. Add synonym: *Petricola denticulata abbreviata* Sowerby I, 1834. Lectotype of synonym, *Venerupis peruviana* Jay, 1839, figured. (Coan, 1996b). Lectotype designated and figured. Lectotypes of synonyms *Petricola denticulata abbreviata* and *Petricola ventricosa* Deshayes, 1853, designated and figured. Length: 42 mm. Distribution: Bahía Santa María, Pacific coast of Baja California Sur, into and throughout the Golfo de California to its northern end at Puerto Peñasco, Sonora, México, and south to Bayovar, Piura Province, Perú. Intertidal zone to 22 m in soft rock (Coan, 1997a).

Petricola s. l.

Species that cannot be assigned to named subgenera (Coan, 1996b; 1997a).

- 476 *Petricola exarata* (Carpenter, 1857). Subgenus unassigned (Coan, 1996b). Lectotype designated and figured. Delete as synonyms: *Petricola anachoreta* and *Cypricardia noemi* de Folin, 1867; *Petricola botula* Olsson, 1964. Length: 15 mm. Distribution: Altata, Sinaloa, México, to Puerto Pizarro, Tumbes Province, Perú. Intertidal zone, nesting in crevices in rocky areas near muddy mangrove swamps and sandflats (Coan, 1997a).
- *Petricola hertzana* Coan, 1997. Length: 7 mm. Distribution: Santa Monica, Los Angeles County, California, to Bahía Magdalena, Baja California Sur, México, from the intertidal zone to 27 m on algae (Coan, 1997a).
- 482 *Petricola olssoni* F. R. Bernard, 1983a. Synonym: *Petricola* (*Petricola*) *peruviana* Olsson, 1961 non *Venerupis peruvianus* Jay, 1839 [482]: ?*Petricola ovata* Troschel, 1825. Distribution 2°S-5°S (Bernard, 1983a). Synonym *Petricola peruviana* as genus *Rupellaria* by Abbott (1974); Woodring (1982). As *Petricola* by Coan (1996). Holotype figured. Length: 30 mm. Distribution: Zorritos, Tumbes Province, Perú, to Antofagasta, Antofagasta Province, Chile. Intertidal zone to 3 m in nesting situations (Coan, 1997a).
- *Petricola scotti* Coan, 1997. Length: 18.5 mm. Distribution: Venado Beach, Panamá Province, Panamá, to Salinas, Guayas Province, Ecuador (Coan, 1997a).

Genus *Choristodon* Jonas, 1844

- 483 *Choristodon robustum* (G. B. Sowerby I, 1834). Genus changed from *Petricola*. Add synonyms: *Petricola typicum* Jonas 1844; *P. robusta* Philippi; *P. anachoreta* and *P. venusta* de Folin, 1867; *P. buwarldi* Clark, 1915 and *P. riocanensis* Maury, 1917. Holotype of synonym *P. bulbosa* Gould 1851, figured. Distribution: Baja California, México, to Perú, and in the western Atlantic from North Carolina to Brazil (Coan, 1996b). Lectotype designated and figured. Holotypes of synonyms, *P. bulbosa* Gould, 1851, *P. venusta* de Folin, 1867, and *P. buwaldi* Clark, 1915, figured. Lectotype of synonym *P. anachoreta* de Folin, 1867, figured. Distribution: Ojo de Liebre, Baja California Sur, into the Golfo de California as far north as Puerto Peñasco, Sonora, México, and south to Paita, Piura Province, Perú, including the Islas Galápagos, Ecuador. Also in the western Atlantic from North Carolina to Rio Grande do Sol, Brazil. Intertidal zone to 55 m, in calcareous substrata. Length: 42.5 mm (Coan, 1997a).

Genus *Petricolaria* Stoliczka, 1870

Raised from subgenus (Coan, 1996b).

- 478 *Petricolaria cognata* (C. B. Adams, 1852). Synonym: *Petricola gracilis parallela* Pilsbry & Lowe, 1932 [480] (holotype figured) (Coan, 1996b). Holotype figured. Distribution: Isla Cedros, Baja California, and Laguna Ojo de Liebre, Baja California Sur, to and throughout the Golfo de California to Puerto Peñasco, Sonora, México, and south to Isla Puná, Guayas Province, Ecuador. Intertidal zone to 15 m, in soft substrata such as clay banks. Length: 80 mm (Coan, 1997a).
- 480 *Petricolaria parallela* Pilsbry & Lowe, 1932. Delete Here. As a synonym. See *Petricola cognata* (C. B. Adams, 1852) [478].

Genus *Rupellaria*

Fleuriau de Bellevue, 1802

As a genus (Abbott, 1974; Woodring, 1982). Delete. No current Panamic Province species in this genus.

- 481 *Rupellaria denticulata* (Sowerby, 1834). Length: 34.2 mm (Draper, 1987). Delete here. Subgenus changed. See *Petricola* (*Petricolirus*).
- 482 *Rupellaria olssoni* Bernard, 1983. Synonym: *Petricola* (**P.**) *peruviana* Olsson, 1961, non

Venerupis peruviana Jay, 1839 (Bernard, 1983a). Delete here. See *Petricola* s.l.

- 483 *Rupellaria typica* (Jonas, 1844). Synonyms: *Petricola robusta* Sowerby, 1834 [483], *P. riocaensis* Maury, 1917. Distribution: both sides of Central America (Woodring, 1982). Add synonym: *Petricola venusta* de Folin, 1867 (Bernard, 1983a). Length: 41.5 mm (Draper, 1987). Delete here. As a synonym. See *Choristodon robustum* [483].

Family COOPERELLIDAE

Delete Cooperellidae as a family, as following species belong in the Petricolidae (Morton, 1995).

Genus *Cooperella* Carpenter, 1864

- 484 *Cooperella panamensis* Olsson, 1961. Extend distribution north to Bahía de Mazatlán, Sinaloa, México (Hendrickx & Toledano Granados, 1994). May be a synonym of *C. subdiaphana* (Carpenter, 1864) [485] (Morton, 1995). Delete here. As a synonym. See *Cooperella subdiaphana* (Carpenter, 1864) [485].
- 485 *Cooperella subdiaphana* (Carpenter, 1864). Shell, hinge and anatomy figured. Extend distribution south to near Acapulco, Guerrero, México. Depth: 37 to 46 m. *Cooperella panamensis* Olsson, 1961, [484] may be a synonym (Morton, 1995). Length: 21.4 mm (Hutsell, Hutsell & Pisor, 1999). Synonym: *Cooperella panamensis* Olsson, 1961. Distribution: British Columbia, Canada, to Isla Cedros, Baja California, throughout the Golfo de California, México, south to Búcaro, Panamá (Coan, Valentich Scott & Bernard, 2000).

Superfamily MACTROIDEA

Family MACTRIDAE

Subfamily MACTRINAE

Genus *Mactra* Linnaeus, 1767

Subgenus *Mactra*, s. s.

- 486 *Mactra* (*M.*) *williamsi* Berry, 1960. Distribution: 2°S-14°N (Bernard, 1983a). Holotype figured (C. Hertz, 1984).

Subgenus *Mactroderma* Dall, 1894

- 488 *Mactra* (*M.*) *velata* Philippi, 1849. Distribution: 1°S-19°N, including the Islas Galápagos, Ecuador

(Bernard, 1983a). Occurrence in the Islas Galápagos doubtful (Finet, 1985). Length: 116 mm (Draper, 1987). Extend distribution south to Callao, Perú (Alamo & Valdivieso, 1987). Delete Galápagos distribution (Bernard, McKinnell & Jamieson, 1991).

Subgenus *Mactrotoma* Dall, 1894

- 489 *Mactra* (*M.*) *dolabriformis* (Conrad, 1867). Delete here. Genus changed. See *Simomactra dolabriformis* [489].
- 490 *Mactra* (*M.*) *nasuta* (Gould, 1851). Delete here. Genus changed. See *Mactrotoma nasuta* [490].

Subgenus *Micromactra* Dall, 1894

- 491 *Mactra* (*M.*) *augusta* Reeve, 1854. Delete here. Genus changed. See *Mactrotoma* (*M.*) *augusta* [491].
- 492 *Mactra* (*M.*) *californica* Conrad, 1837. Delete here. Genus changed. See *Mactrotoma* (*M.*) *californica* [492].
- 493 *Mactra* (*M.*) *fonsecana* Hertlein & Strong, 1950. Delete here. Genus changed. See *Mactrotoma* (*M.*) *fonsecana* [493].
- 494 *Mactra* (*M.*) *isthmica* Pilsbry & Lowe, 1932. Delete here. Genus changed. See *Mactrotoma* (*M.*) *isthmica* [494].
- 495 *Mactra* (*M.*) *vanatta* Pilsbry & Lowe, 1932. Delete here. Genus changed. See *Mactrotoma* (*M.*) *vanatta* [495].

Genus *Harvella* Gray, 1853

- 498 *Harvella elegans* (Sowerby, 1825). Add synonyms: *Mactra estrellana* Olsson, 1922; *Mactra sanctiblasii* Maury, 1925. Subspecies: *Harvella elegans tucilla* Olsson, 1932 (Woodring, 1982). Length: 76 mm (Draper, 1987).

Genus *Mactrellona* Marks, 1951

- 499 *Mactrellona carinata* (Lamarck, 1818). Extend range south to Tumbes, Perú (as *M. alata*) (Peña, 1971). Synonym: *Mactrellona alata* Spengler, auct., non Spengler, 1802 [499] (Bernard, 1983a).
- 501 *Mactrellona exoleta* (Gray, 1837). Include the Islas Galápagos, Ecuador, in distribution (Bernard, 1983a). Occurrence in the Islas Galápagos doubtful

(Finet, 1985). Length: 129.6 mm (Draper, 1987). Delete Galápagos distribution (Bernard, McKinnell & Jamieson, 1991).

- 502 *Mactrellona subalata* (Mörch, 1860). Extend distribution north to Boca de Ceuta, Sinaloa, México (Hendrickx & Toledano Granados, 1994).

Genus *Mactrotoma* Dall, 1894

As a genus (Coan & Scott, 1997).

Subgenus *Mactrotoma*

- 490 *Mactrotoma (M.) nasuta* Gould, 1851. Extend distribution into the Golfo de California to Puertecitos, Baja California, México (DuShane, 1962). Distribution restricted to 6°N-34°N (Bernard, 1983a). Include Bahía Concepción, Baja California Sur, México, in distribution. Depth: 5 m (Everson, 1991). Genus changed from *Macra* by Coan & Scott (1997). Size: 92.6 mm (Hutsell, Hutsell & Pisor, 1997). Distribution: Santa Barbara, California, throughout the Golfo de California, and south to Bahía Solano, Colombia (Coan, Valentich Scott & Bernard, 2000).

Subgenus *Micromactra* Dall, 1894

As a subgenus of *Mactrotoma* by Coan & Scott (1997).

- 491 *Mactrotoma (M.) angusta* (Reeve, 1854). Extend distribution north to San Blas, Nayarit, México. Length: 48.1 mm (Draper, 1987).
- 492 *Mactrotoma (M.) californica* (Conrad, 1837). Extend distribution into the Golfo de California to near Guaymas, Sonora, México (DuShane & Poorman, 1967). Extend distribution south to Tumbes, Perú (Peña, 1971). Add synonym: *Macra ovalina* Reeve, 1854 (Bernard, 1983a). Genus changed from *Macra* by Coan & Scott (1997). Distribution: Monterey, California, throughout the Golfo de California, México, south to Isla Venado, Panamá. Depth: low intertidal zone to 15 m (Coan, Valentich Scott, & Bernard, 2000).
- 493 *Mactrotoma (M.) fonsecana* (Hertlein & Strong, 1950). Include the Islas Galápagos, Ecuador, in distribution (Finet, 1985).
- 494 *Mactrotoma (M.) isthmica* (Pilsbry & Lowe, 1932).
- 495 *Mactrotoma (M.) vanatta* (Pilsbry & Lowe, 1932). Extend distribution south to Paita, Piura Province, Perú (Peña, 1971). Extend distribution south to Pimentel, Perú (Alamo & Valdivieso, 1987).

Genus *Mulinia* Gray, 1837

- 503 *Mulinia coloradoensis* Dall, 1894. Delete *Mulinia modesta* Dall, 1894, as synonym (Bernard, 1983a). Length: 63.4 mm (Draper, 1987). Include Bahía de Mazatlán, Sinaloa, México, in distribution (Hendrickx & Toledano Granados, 1994). Length: 70 mm (Norrid, 2000).
- 504 *Mulinia pallida* (Broderip & Sowerby, 1829). Extend distribution north to Estero Soldado, Sonora, México (DuShane & Poorman, 1967). Add synonyms: *Macra carinulata* Reeve, 1854; *Mulinia densata* Conrad, 1856; *M. modesta* Dall, 1894; *M. camina* Pilsbry & Olsson, 1941 (Bernard, 1983a).

Genus *Rangia* des Moulins, 1832

Subgenus *Rangianella* Conrad, 1863

- 506 *Rangia (R.) mendica* (Gould, 1851). Add synonym: *Gnathodon lecontei* Conrad, 1853 (Bernard, 1983a). Length: 36.4 mm (Draper, 1987). Extend distribution south to Estero El Verde, Sinaloa, México (Hendrickx & Toledano Granados, 1994).

Genus *Simomactra* Dall, 1894

As a genus (Coan, Valentich Scott & Bernard, 2000).

- 489 *Simomactra dolabriformis* (Conrad, 1867). As *Macra (Mactrotoma)*. Extend distribution into the Golfo de California to Puertecitos, Baja California, México (DuShane, 1962). Extend distribution across the Golfo de California to near Guaymas, Sonora, México (DuShane & Poorman, 1967). "The type species of *Simomactra* Dall, 1894; doubtfully to be distinguished from *Mactrotoma* by having a smaller pallial sinus" (Keen & Coan, 1975). As subgenus *Simomactra* by Bernard (1983a). Length: 96.7 mm (Draper, 1987). As *Macra*. Extend distribution north to San Felipe, Baja California, México (Gemmell, Myers & Hertz, 1987). Delete California from distribution (Coan & Scott, 1997). As *Simomactra* (Coan, Valentich Scott & Bernard, 2000)
- *Simomactra hoffstetteri* (Cauquoín, 1969). Distribution: 1°N (Bernard, 1983a).

Subfamily LUTRARIINAE

J. E. Gray, 1853

Genus *Tresus* J. E. Gray, 1853

- *Tresus nuttallii* (Conrad, 1837). Synonyms: *Lutraria maxima* Jonas, 1844; *L. inflata* Dunker, 1853; *Spisula longa* Dall, 1921; *Schizothaerus nuttallii bighopensis* Henderson, 1931. Length to 225 mm. Distribution: Alaska to Bahía Magdalena, Baja California Sur, México. Depth: mid-intertidal zone to 80 m (Coan, Valentich Scott & Bernard, 2000).

Subfamily PTEROPSELLINAE

Keen, 1964

Genus *Raeta* Gray, 1853

- *Raeta plicatella* (Lamarck, 1818). Synonyms: *Lutraria canaliculata* Say, 1822; *Mactra campechensis* Gray, 1825; *Raeta perspicua* Hutton, 1873. Distribution: an Atlantic coast species reported from Teacapán south to Bahía Matenchén, Nayarit, México. Length: 67 mm (Skoglund, 2000c).
- 505 *Raeta undulata* (Gould, 1851). Extend distribution into the Golfo de California to near Guaymas, Sonora, México (DuShane & Poorman, 1967). Extend distribution south to near Caleta Chipana, Chile (21°S) (Tomicic-K., 1978). Synonym: *Raeta gibbosa* Gabb, 1869 (Bernard, 1983a). Hinge detail figured. Extend distribution north to San Felipe, Baja California, México (Gemmell, Myers & Hertz, 1987). Synonyms: *Lutraria gabbi* Pilsbry & Johnson, 1917; *L. gardnerae* Spieker, 1922; *L. hasletti* F. M. Anderson, 1929. Include the entire Golfo de California, México, in distribution (Coan, Valentich Scott & Bernard, 2000).

Superfamily TELLINOIDEA

In line 1 of the definition of the Tellinacea, delete "never with a chondrophore" and substitute, "never with any inverted V-shaped cardinal teeth" (Keen & Coan, 1975).

Family TELLINIDAE

Subfamily TELLININAE

Blainville, 1814

Genus *Tellina* Linnaeus, 1758Subgenus *Angulus* Megerle, 1811

- 508 *Tellina (A.) amianta* Dall, 1900. Include off Roca Consag, Golfo de California, México, in distribution (DuShane & Brennan, 1969). Include the Islas Galápagos, Ecuador, in distribution (Bernard, 1983a). Holotype figured. Extend distribution to San Felipe, Baja California, México. Shell and hinge figured (Hertz, Myers & Gemmell, 1984).
- 509 *Tellina (A.) carpenteri* Dall, 1900. As synonym *Tellina arenica* Hertlein & Strong, 1949. Extend distribution into the Golfo de California to Puertecitos, Baja California México (DuShane, 1962). Extend distribution across the Golfo de California to off Bahía San Carlos, Sonora, México (DuShane & Poorman, 1967). As *T. carpenteri*. Lectotype figured. Valve interiors figured. Add synonym: *Angulus variegatus* Carpenter, 1864, *non Tellina variegata* Gmelin, 1791. Depth: intertidal zone to 500 m (Coan, 1971). Holotype [lectotype?] figured. Distribution: Sitka, Alaska, to San Pedro, California, and south to Corinto, Nicaragua. Depth: intertidal zone to 450 m (Valentich Scott, 1998). Add throughout the Golfo de California, México, to distribution (Coan, Valentich Scott & Bernard, 2000). Length: 27.6 mm (Norrid, 2000).
- 512 *Tellina (A.) coani* Keen, 1971. Holotype figured. Interior of valves and hinge figured. Extend distribution to Playa Alicia, near San Felipe, Baja California, México (Gemmell, Myers & Hertz, 1983). Include off Bahía San Carlos, Sonora, México, in distribution. Depth: 30 m (F. & L. Poorman, 1988). Include Isla del Coco, Costa Rica, in distribution (Bernard, McKinnell & Jamieson, 1991).
- 513 *Tellina (A.) felix* Hanley, 1844. Extend distribution north to Bahía San Carlos, Sonora, México. Depth to 90 m (DuShane & Poorman, 1967).
- 514 *Tellina (A.) guaymasensis* Pilsbry & Lowe, 1932. Extend distribution north to Puertecitos, Baja California, México (DuShane, 1962).
- 515 *Tellina (A.) hiberna* Hanley, 1844. Lectotype figured. Include the intertidal zone near San Felipe, Baja California, México, in distribution (Hertz, Myers & Gemmell, 1984).
- 517 *Tellina (A.) meropsis* Dall, 1900. Extend distribution into the Golfo de California to Puertecitos, Baja California, México (DuShane, 1962). Lectotype figured. Valve interiors figured. Add synonym: *Angulus gouldii* Carpenter, 1864, *ex Hanley MS, non Tellina gouldii* Hanley, 1846. Distribution: Pacific Grove, California; the west

coast of Baja California; the Golfo de California, México, and south to Santa Elena, Ecuador. Depth: intertidal zone to 48 m (Coan, 1971). Include San Felipe, Baja California, México, in distribution (Gemmell, Myers & Hertz, 1987). Length: 15.1 mm (Draper, 1987). Length: 19.2 mm (Norrid, 2000).

518 *Tellina (A.) recurvata* Hertlein & Strong, 1949. Length: 27 mm (Draper, 1987).

522 *Tellina (A.) tumbezensis* (Olsson, 1961). Extend distribution north to Panamá (Avilés-E., 1981).

Subgenus *Elliptotellina* Cossmann, 1886

523 *Tellina (E.) pacifica* Dall, 1900. Extend distribution across the Golfo de California to near Bahía San Carlos, Sonora, México. Depth: 20 to 35 m (DuShane & Poorman, 1967). Extend distribution south to Isla de la Plata, Ecuador (Shasky, 1984). Extend distribution south to the Islas Galápagos, Ecuador (Finet, 1985). Length: 18 mm (Draper, 1987). Include Isla del Coco, Costa Rica, in distribution (Bernard, McKinnell & Jamieson, 1991).

Subgenus *Elpidollina* Olsson, 1961

524 *Tellina (E.) decumbens* Carpenter, 1865. Add synonym: *Angulus amplexans* Carpenter, 1864, *nom. nud.* (Bernard, 1983a).

Subgenus *Eurytellina* Fischer, 1887

525 *Tellina (E.) eburnea* Hanley, 1844. Add synonym: *Tellina (E.) eburnea askoyana* Hertlein & Strong, 1955 [526]. Distribution: 5°S-14°N (Bernard, 1983a). Extend distribution north to Nayarit, México (Reguero & García-Cubas, 1989). Include the Islas Galápagos, Ecuador, in distribution (Bernard, McKinnell & Jamieson, 1991). Extend distribution north to off Mazatlán, Sinaloa, México (Hendrickx & Toledano Granados, 1994).

526 *Tellina (E.) eburnea askoyana* Hertlein & Strong, 1955. Delete here. As a synonym. See *Tellina (E.) eburnea* [525].

527 *Tellina (E.) ecuadoriana* Pilsbry & Olsson, 1941. Extend distribution south to Tumbes, Perú (Peña, 1971). Extend distribution north to the Golfo de Fonseca, El Salvador (Hernández, 1979).

528 *Tellina (E.) hertleini* (Olsson, 1961). Extend

distribution south to Tumbes, Perú (Peña, 1971). Distribution: 3°S-13°N (Bernard, 1983a).

529 *Tellina (E.) inaequistriata* Donovan, 1802. Include Puertecitos, Baja California, México, in distribution (DuShane, 1962). Length: 24 mm (Norrid, 2000).

---- *Tellina (E.) laplata* Pilsbry & Olsson, 1941. Length: 60 mm. Distribution: Paita and Bayovar, Perú (Olsson, 1961).

531 *Tellina (E.) mantaensis* Pilsbry & Olsson, 1943. Extend distribution north to Guaymas, Sonora, México. Length: 26.2 mm (Draper, 1987). Include the Islas Galápagos, Ecuador, in distribution (Bernard, McKinnell & Jamieson, 1991). Extend distribution north to Isla Tiburón, Golfo de California, México (Luke, 1995).

532 *Tellina (E.) prora* Hanley, 1844. Extend distribution north to Puertecitos, Baja California, México (DuShane, 1962). Extend distribution north to San Felipe, Baja California, México. Valve interiors and hinge figured (Gemmell, Myers & Hertz, 1987). Size: 53.4 mm (Hutsell, Hutsell & Pisor, 1999).

534 *Tellina (E.) rubescens* Hanley, 1844. Extend distribution north to Puertecitos, Baja California, México (DuShane, 1962).

535 *Tellina (E.) simulans* C.B. Adams, 1852. Valve interiors figured. Include San Felipe, Baja California, México, in distribution (Gemmell, Myers & Hertz, 1987). Length: 52.3 mm (Draper, 1987).

Subgenus *Hertellina* Olsson, 1961

536 *Tellina (H.) nicoyana* Hertlein & Strong, 1949. Distribution: 4°S-10°N (Bernard, 1983a).

Subgenus *Laciolina* Iredale, 1937

537 *Tellina (L.) ochracea* Carpenter, 1864. Extend distribution south to Bahía Cocos, Guanacaste, Costa Rica (Skoglund, 1990a). Include the Islas Galápagos, Ecuador; Isla del Coco, Costa Rica; and the Islas Revillagigedo, México, in distribution (Bernard, McKinnell & Jamieson, 1991). Include Bahía Ballena, Costa Rica, in distribution (Cruz, 1996). Size: 56.3 mm (Hutsell, Hutsell & Pisor, 1997).

Subgenus *Lyratellina* Olsson, 1961

- 538 *Tellina (L.) lyra* Hanley, 1844. Extend distribution to Bahía San Carlos, Sonora, México. Depth to 35 mm (F. & L. Poorman, 1988).
- 539 *Tellina (L.) lyrica* Pilsbry & Lowe, 1932. Include northwest of Isla Angel de la Guarda, Golfo de California, México, in distribution. Depth: 567 to 603 m (Luke, 1995).

Subgenus *Merisca* Dall, 1900

- 540 *Tellina (M.) brevirostris* Deshayes, 1855. Lectotype figured. Delete *Merisca margarita* Olsson, 1961, as synonym. Distribution: south of Puertecitos, Baja California, throughout the Golfo de California, México, to the Islas Galápagos, Ecuador (Myers, Gemmell & Hertz, 1983). Extend distribution south to the Golfo de Guayaquil, Ecuador (Cruz-P., 1983). Occurrence in the Islas Galápagos doubtful (Finet, 1985). Length: 25.2 mm (Draper, 1987). Extend distribution south to Puerto Pizarro, Tumbes, Perú (Mogollón, Peña Gonzáles & Béarez, 2000).
- 542 *Tellina (M.) cristallina* Spengler, 1798. Synonyms: *Tellina errati* Pilsbry & Johnson, 1917; *Merisca rhynchoscute* Olsson, 1961[542]. Distribution: Panamá to Ecuador; Western Atlantic (Woodring, 1982). Exterior and details of hinge figured (as *T. rhynchoscute*) (Gemmell, Myers & Hertz, 1987). Length: 27 mm (Draper, 1987).
- 541 *Tellina (M.) reclusa* Dall, 1900. Extend distribution into the Golfo de California at San Felipe, Baja California, México. Lectotype figured. Synonym: *Merisca margarita* Olsson, 1961 (Myers, Gemmell & Hertz, 1983). Include the Islas Galápagos, Ecuador, in distribution (Bernard, McKinnell & Jamieson, 1991).
- 543 *Tellina (M.) ulloana* Hertlein, 1968. Hinge dentition figured. Extend distribution north to the San Felipe area, Baja California, México (Gemmell, Hertz & Myers, 1980).

Subgenus *Peronidia* Dall, 1900

- *Tellina (P.) bodegensis* Hinds, 1845. Synonym: *Tellina (Peronidia) santarosae* Dall, 1900. Lectotype figured. Distribution: British Columbia, Canada, to Bahía Magdalena, Baja California Sur, México. Golfo de California records probably in error. Depth: intertidal zone to 96 m (Coan, 1971). Synonym: *?T. callamensis* Reagan, 1908 (Bernard,

1983a). Length: 62.4 mm (Draper, 1987). Delete *?T. callamensis* Reagan, 1908, as a synonym. Extend distribution north to Sitka, Alaska (Coan, Valentich Scott & Bernard, 2000).

Subgenus *Phyllodella* Hertlein & Strong, 1949

- 544 *Tellina (P.) insculpta* Hanley, 1844. Extend distribution north to Nayarit, México (Reguero & García-Cubas, 1989).

Subgenus *Phyllodina* Dall, 1900

- 545 *Tellina (P.) fluctigera* Dall, 1908. Distribution: 4°S-8°N. Depth: 45 to 333 m (Bernard, 1983a).
- 546 *Tellina (P.) pristiphora* Dall, 1900. Extend distribution across the Golfo de California to near Guaymas, Sonora, México (DuShane & Poorman, 1967). Distribution: 10°N-28°N (Bernard, 1983a). Length: 41 mm (Norrid, 2000).

Subgenus *Scissula* Dall, 1900

- 550 *Tellina (S.) virgo* Hanley, 1844. Extend distribution into the Golfo de California to near Guaymas, Sonora, México (DuShane & Poorman, 1967). Valve interiors and details of hinge figured. Extend distribution north to San Felipe, Baja California, México (Gemmell, Myers & Hertz, 1987).

Subgenus *Tellinella* Mörch, 1853, ex Gray MS

- 551 *Tellina (T.) cumingii* Hanley, 1844. Extend distribution south to the Golfo de Guayaquil, Ecuador (Cruz-P., 1983). Synonym: *Tellina argis* Olsson, 1971 [551a]. Distribution: 9°N-25°N (Bernard, 1983a). Include Isla de Gorgona, Colombia, in distribution (von Prahl, 1986). Length: 65.5 mm (Draper, 1987). Include Isla del Coco, Costa Rica, in distribution (Bernard, McKinnell & Jamieson, 1991).
- 551a *Tellina (T.) cumingii argis* Olsson, 1971. Known from a single valve taken at Isla de Gorgona, Colombia, 91 to 101 m (Olsson, 1971). Extend distribution south to Isla de la Plata, Ecuador (Shasky, 1984). Delete here. As a synonym. See *Tellina (T.) cumingii* Hanley, 1844 [551].
- 552 *Tellina (T.) zacae* Hertlein & Strong, 1949. Distribution: 27°N-29°N (Bernard, 1983a). Include off Isla Danzante, Golfo de California,

México, in distribution (Mulliner, 1996). Length: 44 mm (Norrid, 2000).

Subgenus *Tellinidella*
Hertlein & Strong, 1949

- 554 *Tellina (T.) princeps* Hanley, 1844. Correct Keen (1971) number from 544 (Keen & Coan, 1975). Length: 80.5 mm (Draper, 1987).
555 *Tellina (T.) purpurea* Broderip & Sowerby, 1829. Extend distribution south to Tumbes, Perú (Peña, 1971). Length: 65.9 mm (Draper, 1987).

Subfamily **MACOMINAE**
Olsson, 1961

Genus *Macoma* Leach, 1819
Subgenus *Macoploma*
Pilsbry & Olsson, 1941

- 560 *Macoma (M.) medioamericana* Olsson, 1942. Extend distribution south to off Punta Telégrafo, Perú (Alamo & Valdivieso, 1987).

Subgenus *Psammacoma* Dall, 1900

- 561 *Macoma (P.) carlottensis* (Whiteaves, 1880). Lectotype figured. Interior of valves figured. Distribution: Aleutian Islands, Alaska, to Islas Coronados, Baja California, and Isla Animas, Golfo de California, México. Depth: 5 to 1547 m. Other records from Baja California Sur, México, are in error (Coan, 1971). Synonym: *Macoma leptonoidea* Dall, 1915. Species does not occur in the Arctic (Coan & Scott, 1997).
562 *Macoma (P.) elytrum* Keen, 1958. Hinge dentition figured. Include off Roca Consag, Golfo de California, México, in distribution (Gemmell, Hertz & Myers, 1980). Lectotype of synonym *Tellina elongata* Hanley, 1844, figured. Interior of right valve of lectotype figured (Myers, Hertz & Gemmell, 1983a and 1983b). Length: 87.1 mm (Wagner & Abbott, 1990).
563 *Macoma (P.) grandis* (Hanley, 1844). Add Islas Galápagos, Ecuador, to distribution (Bernard, 1983a). Occurrence in the Islas Galápagos doubtful (Finet, 1985). Length: 85 mm (Draper, 1987). Galápagos distribution restated (Bernard, McKinnell & Jamieson, 1991). Extend distribution north to Tetuán Viejo, Sinaloa, México (Hendrickx

& Toledano Granados, 1994).

- 564 *Macoma (P.) hesperus* Dall, 1908. Delete. Known only from the holotype, which is from the Caribbean (Bernard, 1983a).
565 *Macoma (P.) lamproleuca* (Pilsbry & Lowe, 1932). Length: 101.8 mm (Wagner & Abbott, 1990).
---- *Macoma (P.) panamensis* Dall, 1900. As a valid species. Holotype figured. Type locality Bahía de Panamá. Keen (1971) lower fig. 566 is this species (Gemmell, Myers & Hertz, 1984).
567 *Macoma (P.) panamensis spectri* Hertlein & Strong, 1949. Synonym: *Macoma siliqua spectri* Hertlein & Strong, 1949. Holotype figured. Holotype dentition figured (Gemmell, Myers & Hertz, 1984). Include off Bahía San Carlos, Sonora, México, in distribution. Depth: 35 to 100 m (F. & L. Poorman, 1988).
566 *Macoma (P.) siliqua* (C.B. Adams, 1852). Extend distribution south to Esmeraldas, Ecuador. Depth: 90 m (Cruz-P., 1977). Synonym: *Macoma (P.) siliqua spectri* Hertlein & Strong, 1949. Distribution: 9°N-31°N. Depth: 20 to 150 m (Bernard, 1983a). Holotype shell and hinge figured. Holotype of synonym *Thracia carnea* Mörch, 1860, figured. Delete synonyms *Macoma panamensis* Dall, 1900, and *M. siliqua spectri* Hertlein & Strong, 1949. Keen (1971) fig. 566, lower, is *Macoma panamensis* Dall, 1900. Distribution: San Felipe, Baja California, México, to Panamá (Gemmell, Myers & Hertz, 1984). Length: 35.2 mm (Draper, 1987).

Subgenus *Rexithaerus*
Tryon, 1869, ex Conrad MS

- 568 *Macoma (R.) indentata* Carpenter, 1864. Lectotype figured. Valve interiors figured. Synonyms: *Macoma (R.) indentata tenuirostris* Dall, 1900; *M. (R.) rickettsi* Steinbeck & Ricketts, 1941, ex Rehder MS, *nom. nud.* Distribution: Trinidad, California, to and through the Golfo de California as far south as Isla Cerralvo, Baja California Sur; Guaymas, Sonora, México. Depth: intertidal zone to 91 m (Coan, 1971). Length: 93.2 mm (Wagner & Abbott, 1990). Synonym: *Macoma vanvlecki* R. Arnold, 1910 (Coan, Valentich Scott & Bernard, 2000).
---- *Macoma (R.) secta* (Conrad, 1837). Synonyms: *Tellina ligamentina* Deshayes, 1843; *Macoma secta edulis* Carpenter, 1860, ex Nuttall MS. Holotype and valve interiors figured. Length: 120 mm.

Distribution: Vancouver Island, British Columbia, Canada, to Bahía Magdalena, Baja California Sur, México. Depth: intertidal zone to 46 m. Specimens in collections from Acapulco and Oaxaca probably represent labeling errors (Coan, 1971). Extend distribution into the Golfo de California to off Bahía San Carlos, Sonora, México. Depth: 80 m (F. & L. Poorman, 1988).

Subgenus *Scissulina* Dall, 1924

- *Macoma* (S.) *obliquilineata* (Conrad, 1837). Distribution: Hawaiian Islands. Depth: 12 to 100 m in clean sand (Kay, 1979). Extend distribution to include the Islas Galápagos, Ecuador. Length: 17 mm (J. Hertz, 1997).

Genus *Cymatoica* Dall, 1890

Raised from subgenus (Abbott, 1974).

- 559 *Cymatoica undulata* (Hanley, 1844). Include off Roca Consag, Golfo de California, México, in distribution (DuShane & Brennan, 1969). Include San Felipe, Baja California, México, in distribution (Gemmell, Hertz & Myers, 1980). Include the Islas Galápagos, Ecuador, in distribution (Bernard, 1983a). Occurrence in the Islas Galápagos doubtful (Finet, 1985). Include off Bahía San Carlos, Sonora, México in distribution. Depth: 35 to 100 m (F. & L. Poorman, 1988). Galápagos distribution restated (Bernard, McKinnell & Jamieson, 1991).

Genus *Leporimetis* Iredale, 1930

Synonym: *Florimetis* Olsson & Harbison, 1953 (Coan, 1971).

- 556 *Leporimetis asthenodon* (Pilsbry & Olsson, 1932). Extend distribution south to Tumbes, Perú (Peña, 1971).
- 557 *Leporimetis cognata* (Pilsbry & Vanatta, 1902). Include San Felipe, Baja California, México, in distribution (Gemmell, Myers & Hertz, 1987). Include off Bahía San Carlos, Sonora, México, in distribution. Depth: 35 to 100 m (F. & L. Poorman, 1988).
- 558 *Leporimetis dombei* (Hanley, 1844). Include the Islas Galápagos, Ecuador, in distribution (Finet, 1985). Extend distribution north to the Golfo de Nicoya, Costa Rica (Cruz, 1996).
- *Leporimetis obesa* (Deshayes, 1855). Synonyms:

Tellina alta Conrad, 1837, *non* Conrad, 1833; *Tellina turgida* Deshayes, 1855; *Scrobicularia biangulata* Carpenter, 1856; Lectotype figured. Interior of valves figured. Distribution: Point Conception, California, to Bahía Magdalena, Baja California Sur, México. Depth: intertidal zone to 46 m (Coan, 1971). Length: 112.3 mm (Wagner & Abbott, 1990). Present in the Golfo de California, México (Bernard, McKinnell & Jamieson, 1991). Synonym: *Tellina obesa* Deshayes, 1855; *Arcopagia medialis* Conrad, 1857; *A. unda* Conrad, 1857. Distribution: Point Conception, California, to Bahía Magdalena, Baja California Sur, México. Depth: subtidal zone to 50 m (Coan, Valentich Scott & Bernard, 2000).

Genus *Psammotreta* Dall, 1900

Subgenus *Psammotreta*, s. s.

- 569 *Psammotreta* (P.) *aurora* (Hanley, 1844). Add synonym: *Tellina concinna* Philippi, 1844. Extend distribution to the Islas Galápagos, Ecuador (Bernard, 1983a). Occurrence in the Islas Galápagos doubtful (Finet, 1985). Length: 40 mm (Draper, 1987). Include San Felipe, Baja California, México, in distribution (Gemmell, Myers & Hertz, 1987). Galápagos distribution restated (Bernard, McKinnell & Jamieson, 1991).
- 570 *Psammotreta* (P.) *mazatlanica* (Deshayes, 1855). Extend distribution into the Golfo de California to Puertecitos, Baja California, México (DuShane, 1962). Length: 42.5 mm (Draper, 1987). Include Isla Smith, Bahía de los Angeles, Baja California, México, in distribution. Depth: 183 m (Skoglund, 1988).
- 572 *Psammotreta* (P.) *viridotincta* (Carpenter, 1856). Include off San Felipe, Baja California, México, in distribution (Dushane & Brennan, 1969). Synonym: *Tellina casta* Hanley, 1844 (Bernard, 1983a). Include the intertidal zone, San Felipe, in distribution (Gemmell, Myers & Hertz, 1987). Length: 79.3 mm (Wagner & Abbott, 1990). Include the Islas Galápagos, Ecuador, in distribution (Finet, 1991). Occurrence in the Islas Galápagos doubtful (Finet, 1994b). Include Bahía Magdalena, Baja California Sur, México, in distribution (Luke, 1995).

Subgenus *Ardeamya* Olsson, 1961

- 573 *Psammotreta (A.) columbiensis* (Hanley, 1844). Extend distribution south to Tumbes, Perú (Peña, 1971).

Genus *Strigilla* Turton, 1822

Subgenus *Strigilla*, s. s.

- 574 *Strigilla (S.) chroma* Salisbury, 1934. Include the Islas Galápagos, Ecuador, in distribution (Bernard, McKinnell & Jamieson, 1991).
- 575 *Strigilla (S.) cicerula* (Philippi, 1846). Include off Roca Consag, Golfo de California, México, in distribution (DuShane & Brennan, 1969). Synonym: *S. interrupta* Mörch, 1860 [579]. Depth: 90 m (Cruz-P., 1977). Delete *S. interrupta* as a synonym (Bernard, 1983a). Length: 11.7 mm (Draper, 1987).
- 576 *Strigilla (S.) dichotoma* (Philippi, 1846). As synonym *Strigilla costulifera* (Möorch, 1860). Include Puertecitos, Baja California, México, in distribution (DuShane, 1962). As *S. dichotoma*. Depth: 51 m (Cruz-P., 1977). Include the Islas Galápagos, Ecuador, in distribution (Bernard, 1983a). Occurrence in the Islas Galápagos doubtful (Finet, 1985).
- 577 *Strigilla (S.) disjuncta* (Carpenter, 1856). Extend distribution north to the Golfo de Fonseca, El Salvador (Hernández, 1979).
- 578 *Strigilla ervilia* (Philippi, 1846). As synonym *Strigilla lenticula* (Philippi). Extend distribution north to near Guaymas, Sonora, México (DuShane & Poorman, 1967). Extend distribution north to Roca Consag, Golfo de California, México (DuShane & Brennan, 1969).

Subgenus *Pisostrigilla* Olsson, 1961

- 579 *Strigilla (P.) interrupta* Mörch, 1860. As a synonym of *Strigilla cicerula* (Philippi, 1846) [575] (Cruz-P., 1977), and as a valid species (Bernard, 1983a).

Subgenus *Simplistrigilla* Olsson, 1961

- 580 *Strigilla (S.) serrata* Mörch, 1860. Extend distribution north to Cabo Tepoca, Sonora, México (Skoglund, 1974). Distribution: northern end of the Golfo de California, México, south to Ecuador (Keen & Coan, 1975). Include San Felipe, Baja California, México, in distribution (Gemmell, Myers & Hertz, 1987). Include the Islas Galápagos,

Ecuador, in distribution (Bernard, McKinnell & Jamieson, 1991).

Genus *Tellidora* H. & A. Adams, 1856

- 581 *Tellidora burneti* (Broderip & Sowerby, 1829). Include Bahía Magdalena, Baja California Sur, México, in distribution (Luke, 1995). Include off Isla Danzante, Golfo de California, México, in distribution. Valves taken from 35 to 50 m (Mulliner, 1996).

Genus *Temnoconcha* Dall, 1921

- 582 *Temnoconcha cognata* (C.B. Adams, 1852). Extend distribution south to Puerto López, Manabí, Ecuador (Shasky, 1984). Length: 48.1 mm (Draper, 1987). Extend distribution south to Guayas, Ecuador (Skoglund, 1990b). Extend distribution north to off Punta Willard, Baja California, México (Hendrickx & Toledano Granados, 1994).

Family DONACIDAE

Classification follows Coan (1983a).

Genus *Donax* Linnaeus, 1758

Subgenus *Donax* s. s.

- 583 *Donax (D.) asper* Hanley, 1845. Lectotype figured. Synonyms: *Donax granifera* Reeve, 1854, ex Deshayes MS; *D. rostratus* C.B. Adams, auctt., non C.B. Adams, 1852. Length: 42 mm. Distribution: Golfo de Fonseca, El Salvador, to Tumbes Province, Perú. Intertidal on sand beaches (Coan, 1983a).
- *Donax (D.) assimilis* Hanley, 1845. Lectotype figured. Synonyms: *Donax cayennensis* Lamarck, auctt., non *D. caianensis* Lamarck, 1818; *D. panamensis* Philippi, 1849 [596]; *D. curtus* Sowerby, 1866; *D. reevei* Bertin, 1881. Length: 44 mm. Distribution: Golfo de Fonseca, El Salvador, to the Golfo de Guayaquil, Ecuador. Intertidal zone in sand (Coan, 1983a). Include the Islas Galápagos, Ecuador, in distribution (Hickman & Finet, 1999).
- 588 *Donax (D.) dentifer* Hanley, 1843. Extend distribution north to the Golfo de Fonseca, El Salvador (Hernández, 1979). Lectotype figured. Delete ?*Donax assimilis* Hanley, 1845, as synonym. Length: 48 mm. Distribution: Guatemala to Guayas Province, Ecuador, intertidal zone in sand (Coan,

1983a). Extend distribution north to Tapachula, Chiapas, México (Coan, 1985).

- 596 *Donax (D.) panamensis* Philippi, 1849. Delete here. As a synonym. See *Donax assimilis* Hanley, 1845.

Subgenus *Chion* Scopoli, 1777

- *Donax (C.) caelatus caelatus* Carpenter, 1857. Lectotype figured. Synonym: *Donax punctatostratus* "var." *caelatus* Carpenter, 1857. Length: 49 mm. Distribution: Bahía de las Animas, Baja California; Guaymas, Sonora, México, to Golfito, Costa Rica. Depth: intertidal zone to 3 m (Coan, 1983a). Extend distribution south to Panamá (Coan, 1985).

- *Donax (C.) caelatus rothi* Coan, 1983. Length: 22 mm. Distribution: Canoa, Manabí Province, Ecuador, to Punta Sal, Piura Province, Perú. Depth: intertidal zone to 3 m (Coan, 1983a).

- 586 *Donax (C.) contusus* Reeve, 1854. Delete here. As a synonym. See *Donax culter* Hanley, 1845 [587].

- 587 *Donax (C.) culter* Hanley, 1845. Lectotype figured. Synonyms: *Donax contusus* Reeve, 1854 [586]; *D. conradi* Reeve, 1854; *D. bitinctus* Reeve, 1855; *D. californicus* Conrad, *auctt.*, *non* Conrad, 1837. Delete as synonyms: *D. petallina* Reeve, 1854; *D. petalina* Deshayes, 1855 [in part]; *Amphichaena gracilis* Mörch, 1860. Length: 47 mm. Distribution: Isla San Ignacio, Sonora, and La Paz, Baja California Sur, to Acapulco, Guerrero, México. Depth: intertidal zone to 2 m (Coan, 1983a). Extend distribution south to Playa Reventazón, Piura, Perú (Díaz C., 1991).

- 589 *Donax (C.) ecuadorianus* Olsson, 1961. Holotype figured. Length: 22 mm. Extend distribution north to Golfo de Fonseca, El Salvador. Intertidal zone to 1 m (Coan, 1983a).

- 582 *Donax (C.) mancorensis* Olsson, 1961. Delete here. As a synonym. See *Donax obesulus* Reeve, 1854 [594].

- 594 *Donax (C.) obesulus* Reeve, 1854. Lectotype figured. Synonyms: *Donax radiatus* Valenciennes, 1827; *D. punctatostratus* Hanley, *auctt.*, *non* Hanley, 1843; *D. peruvianus* Deshayes, 1855; *D. aricanus* Dall, 1909; *D. mancorensis* Olsson, 1961 [592]. Delete as synonyms: ?*Donax granifera* Reeve, 1854; *D. curtus* Sowerby, 1866. Length: 38 mm. Distribution: Canoa, Manabí Province, Ecuador, to Bahía Moreno, Antofagasta Province,

Chile (Coan, 1983a).

- 595 *Donax (C.) obesulus* d'Orbigny, 1845. Holotype figured. Synonym: *Donax obesulus* Reeve, *auctt.*, *non* Reeve, 1854. Length: 15.2 mm. Distribution: Golfo de Fonseca, El Salvador, to Manabí Province, Ecuador (Coan, 1983a).

- 598 *Donax (C.) punctatostratus* Hanley, 1843. Lectotype figured. Synonym: *Donax sowerbyi* Bertin, 1881. Delete as synonym: *D. caelatus* Carpenter, 1857. Length: 48 mm. Distribution: Isla Cedros, Laguna San Ignacio, Baja California Sur, and throughout the Golfo de California, to Manzanillo, Colima, México. Intertidal zone to about 5 m (Coan, 1983a).

Subgenus *Machaerodonax* Römer, 1870

- 585 *Donax (M.) carinatus* Hanley, 1843. Holotype figured. Length: 52 mm. Distribution: Bahía Magdalena, Baja California Sur, and Altata, Sinaloa, México, to Tumbes Province, Perú. Intertidal zone to 12 m (Coan, 1983a).

- 599 *Donax (M.) transversus* Sowerby, 1825. Length: 42 mm. Distribution: Altata, Sinaloa, México, to Piura Province, Perú. Intertidal zone in sand (Coan, 1983a). Length: 47.3 mm (Draper, 1987).

Subgenus *Amphichaena* Philippi, 1847

- 600 *Donax (A.) kindermanni* (Philippi, 1847). Extend distribution south to the Golfo de Fonseca, El Salvador (Hernández, 1979). Lectotype figured. Add synonym: *Amphichaena gracilis* Mörch, 1860. Length: 48 mm. Distribution: Bahía Tenacatita, Jalisco, México, to Golfo de Fonseca, El Salvador. Intertidal zone in sand (Coan, 1983a).

Subgenus *Paradonax*

Cossmann in Cossmann & Peyrot, 1911

- 584 *Donax (P.) californicus* Conrad, 1837. Synonym: *Donax navicula* Hanley, 1845 [593]. Length: 33 mm. Distribution: Ventura County, California, to and throughout the Golfo de California, México, and south to Tumbes Province, Perú. Intertidal zone to 10 m in fine sand (Coan, 1983a). Include the Islas Galápagos, Ecuador, in distribution (Bernard, 1983a). Delete Galápagos distribution (Bernard, McKinnell & Jamieson, 1991).

- 591 *Donax (P.) gracilis* Hanley, 1845. Lectotype

figured. Length: 30.2 mm. Extend depth to 50 m (Coan, 1983a). Include the Islas Galápagos, Ecuador, in distribution (Bernard, 1983a). Delete Galápagos distribution (Bernard, McKinnell & Jamieson, 1991).

- 593 *Donax (P.) navicula* Hanley, 1845. Include Puertecitos, Baja California, México, in distribution (DuShane, 1962). Delete here. As a synonym. See *Donax californicus* Conrad, 1837 [584].

Donax, s. l.

- 590 *Donax gouldii* Dall, 1921. Holotype figured. Synonyms: *Donax obesus* Gould, 1851, *non* d'Orbigny, 1845; *D. obesus* Philippi, 1851, *non* d'Orbigny, 1845; *D. laevigatus* Reeve, 1854, *ex* Deshayes MS; *D. abruptus* Carpenter, 1857, *ex* Gould MS, *nom. nud.* Length: 31.5 mm. Distribution: Marin County, California, to Arroyo Conejo, Baja California Sur; Isla Socorro, Islas Revillagigedo, México. Intertidal zone to 5 m. Records from Mexican mainland are probably in error (Coan, 1983a). Isla Socorro record probably a locality error (Coan, Valentich Scott & Bernard, 2000).

- *Donax marincovichii* Coan, 1983. Synonyms: *Donax radiatus* Valenciennes, *auctt.*, (*pars*), *non* Valenciennes, 1827; *D. peruvianus* Deshayes, *auctt.*, (*pars*), *non* Deshayes, 1855. Length: 32 mm. Distribution: Salinas, Ecuador, to Tarapaca Province, Chile. Intertidal zone on sandy beaches (Coan, 1983a).

Genus *Iphigenia* Schumacher, 1817

- 601 *Iphigenia altior* (Sowerby, 1833). Lectotype figured. Length: 84 mm. Distribution: from Mazatlán, Sinaloa, México, south. Not found in the Golfo de California. Depth: intertidal zone to 11 m (Coan, 1983a). Length: 87 mm (Draper, 1987).

Family PSAMMOBIIDAE

Synonym: Sanguinolariinae M. Smith, 1937, *ex* Grant & Gale (1931) MS (Coan, Valentich Scott & Bernard, 2000).

Genus *Gari* Schumacher, 1817

Subgenus *Gobraeus* Brown, 1844, *ex* Leach MS

- *Gari (G.) californica* (Conrad, 1849). Synonym:

Psammobia rubroradiata Carpenter, 1864, *ex* Nuttall MS. Holotype figured. Valve interior figured. Distribution: Shelikof Strait, Alaska, to Bahía Magdalena, Baja California Sur, México. Depth: intertidal zone to 168 m (Coan, 1973b). Add synonym: *Psammobia kazusensis* Yokoyama, 1922 (Bernard, 1983a). Length: 148.6 mm (Draper, 1987). Synonyms: *Psammobia lilacina* Wilkins in Palmer, 1958, *ex* Carpenter MS; *Psammobia kazusensis atsumiensis* Hayasaka, 1961. Include Kamchatka to Tokyo, Japan, in distribution (Coan, Valentich Scott & Bernard, 2000).

- 602 *Gari (G.) fucata* (Hinds, 1845). As *Gari edentula* (Gabb, 1869). Synonym: ?*Tellina fucata* Hinds, 1845 [602]. Holotype and valve interior figured. Distribution: near Santa Barbara, to San Pedro, California, and possibly to Bahía Magdalena, Baja California Sur, México (type locality of *Tellina fucata*). Depth: 5 to 137 m in fine sand (Coan, 1973b). Length: 136.5 mm (Draper, 1987). As *Gari fucata*. Extend distribution north to off Punta Willard, Baja California, and off Bahía Tepoca, Sonora, and south to Bahía de Mazatlán, Sinaloa, México (Hendrickx & Toledano Granados, 1994). Synonyms: “? *Siliquaria*” *edentula* Gabb, 1869 (holotype figured); *Gari “fuscata” auctt.*, *nom. null.*; *non Gari fucata auctt.* (J. Hertz, 1994). Holotype figured. Shell interior figured. Distribution: Ventura County, California, to Punta Eugenia, Baja California Sur, México, and possibly as far south as Bahía Magdalena, Baja California Sur (type locality of *Tellina fucata*) but no other collections contain material from this far south (Coan, 2000b).

- 603 *Gari (G.) helenae* Olsson, 1961. Distribution: 4°N-29°S, intertidal zone (Bernard, 1983a). Extend distribution north to San Felipe, Baja California, and Guaymas, Sonora, México. Holotype figured. Hinge with “chondrophore” and resilium figured (Myers, Gemmell & Hertz, 1984). Include off Bahía San Carlos, Sonora, México, in distribution. Depth: 35 m (F. & L. Poorman, 1988). Include the Islas Galápagos, Ecuador, in distribution (Finet, 1991). Length: 61.3 mm (Hutsell, Hutsell & Pisor, 1999). Delete here. Subgenus changed. See *Gari (Dysmea) helenae* Olsson, 1961 [603].

- 604 *Gari* sp. Delete here. As a synonym. See *Gari (D.) helenae* Olsson, 1961 [603].

- 605 *Gari lata* (Deshayes, 1855). Synonyms:

Psammobia (?*Amphichaena*) *regularis* Carpenter, 1864 (holotype figured) [608]; *Gari maxima* Deshayes, *auctt.*, *non* Deshayes, 1855. Lectotype selected and figured. Shell interior figured. Distribution: Punta Entrada, Bahía Magdalena, Baja California Sur, into the Golfo de California as far north as Isla San Luis, Baja California (29.9° N), and Puerto Lobos, Cabo Tepoca, Sonora, México, and south to Santa Elena, Guayas Province, Ecuador. Length to 65.5 mm (Coan, 2000b).

- 606 *Gari* (*G.*) *maxima* (Deshayes, 1855). Length: 125 mm (Wagner & Abbott, 1990). Lectotype selected and figured. Shell interior figured. Distribution: Mazatlán, Sinaloa, México, to Panamá (Coan, 2000b).

- 607 *Gari* (*G.*) *panamensis* Olsson, 1961. Holotype figured. No "chondrophore" (Myers, Gemmell & Hertz, 1984). Extend distribution south to Isla de Gorgona, Colombia (von Prael, 1986). Extend distribution north to Bahía San Carlos area, Sonora, México. Depth: 20 to 35 m (F. & L. Poorman, 1988). Extend distribution south to Guayas, Ecuador (Skoglund, 1990b). Holotype figured. Shell interior figured. Distribution: off west Isla Danzante, Baja California Sur, México, to Playas [de Villamil], Guayas Province, Ecuador (Coan, 2000b).

- 608 *Gari* (*G.*) *regularis* (Carpenter, 1864). Extend distribution into the Golfo de California in the Bahía San Carlos area, Sonora, México (DuShane & Poorman, 1967). Holotype figured. Distribution: Islas Coronados, Baja California, to Cabo San Lucas, Baja California Sur, México, 18 to 37 m (Coan, 1973b). Holotype figured. No "chondrophore" or resilium (Myers, Gemmell & Hertz, 1984). Length: 47.5 mm (Wagner & Abbott, 1990). Delete here. As a synonym. See *Gari lata* (Deshayes, 1855) [605].

- *Gari* n. sp.? A single 20.3 mm pair of valves from the Islas Galápagos figured. Shell interior figured. Probably represents an undescribed species (Coan, 2000b).

Subgenus *Dysmea*

Dall, Bartsch & Rehder, 1939

- 603 *Gari* (*D.*) *helenae* Olsson, 1961. Synonym: *Gari* species *in* Keen, 1971 [604]. Holotype figured. Shell interior figured. Distribution: Laguna Ojo de Liebre, Baja California Sur, into the Golfo de

California as far north as Puertecitos, Baja California, and Cabo Tepoca, Sonora, México, south to Isla Salango, Manabí, and the Islas Galápagos, Ecuador. Depth: intertidal zone to 155m (Coan, 2000b).

Genus *Heterodonax* Mörch, 1853

- 609 *Heterodonax pacificus* (Conrad, 1837). As synonym *Heterodonax bimaculatus*. Extend distribution into the Golfo de California at Puertecitos, Baja California, México (DuShane, 1962). As *H. pacificus*. Extend distribution south to Tumbes, Perú (Peña, 1971). Lectotype figured. Distribution: Point Conception, California, and the entire Panamic Province to Perú. Depth: intertidal zone (Coan, 1973b).

Genus *Nuttallia* Dall, 1898

- *Nuttallia nuttallii* (Conrad, 1837). Synonyms: *Psammobia decora* Hinds, 1852; *Sanguinolaria grandis* Carpenter, 1857, *ex* Gould MS; *S. orcutti* Dall, 1921. Lectotype figured. Distribution: Bodega Bay, California, to Bahía Magdalena, Baja California Sur, México. Intertidal zone of protected bays (Coan, 1973b). Length: 131 mm (Draper, 1987).

Genus *Sanguinolaria* Lamarck, 1799

Subgenus *Sanguinolaria*, s. s.

- 610 *Sanguinolaria* (*S.*) *ovalis* Reeve, 1857. Length: 31 mm (Draper, 1987).
- 611 *Sanguinolaria* (*S.*) *tellinoides* A. Adams, 1850. Include Puertecitos, Baja California, México, in distribution (DuShane, 1962). Include near San Felipe, Baja California, México, in distribution (Gemmell, Myers & Hertz, 1987). Size: 65.3 mm (Hutsell, Hutsell & Pisor, 1997).

Family SOLECURTIDAE

Genus *Solecurtus* Blainville, 1824

- 614 *Solecurtus guaymasensis* Lowe, 1935. Extend distribution into the Golfo de California to off Bahía San Carlos, Sonora, México (DuShane & Poorman, 1967). Extend distribution south to the Islas Galápagos, Ecuador (Finet, 1985). Length:

- 60.6 mm (Draper, 1987). Extend distribution north to southern California (Coan & Scott, 1997). Distribution: Santa Barbara, California, to and throughout the Golfo de California, México, south to Chiriquí, Panamá, and the Islas Galápagos, Ecuador (Coan, Valentich Scott & Bernard, 2000).
- 613 *Solecurtus lineatus* (Gabb, 1861). Synonym: *Solecurtus broggii* Pilsbry & Olsson, 1941[613]. Distribution: 4°S-8°N (Bernard, 1983a). Include the Islas Galápagos, Ecuador, in distribution (Bernard, McKinnell & Jamieson, 1991).

Genus *Tagelus* Gray, 1847
Subgenus *Tagelus*, s. s.

- 615 *Tagelus (T.) affinis* (C.B. Adams, 1852). Lectotype figured. Distribution: Cayucos, California, to Ecuador. Intertidal in protected bays in mud, also reported to 73 m (Coan, 1973b). Include the Islas Galápagos, Ecuador, in distribution (Bernard, 1983a). Occurrence in the Islas Galápagos doubtful (Finet, 1985). Length: 62.8 mm (Draper, 1987). Galápagos distribution restated (Bernard, McKinnell & Jamieson, 1991). Occurrence in the Islas Galápagos doubtful (Finet, 1994b). Galápagos distribution confirmed (Kaiser, 1997). Synonym: *Tagelus irregularis* Olsson, 1961 [618]. Distribution: Morro Bay, California, throughout the Golfo de California, México, south to Manglaralto, Ecuador (Coan, Valentich Scott & Bernard, 2000).
- 616 *Tagelus (T.) californianus* (Conrad, 1837). Extend distribution into the Golfo de California to near Guaymas, Sonora, México (DuShane & Poorman, 1967). Lectotype figured. Distribution: Humboldt Bay, California, to Baja California, and throughout the Golfo de California, México. Intertidal in muddy sand of protected bays (Coan, 1973b). Length: 128.3 mm (Draper, 1987). Synonym: *Solecurtus violascens* Carpenter, 1857 [621]. Extend distribution south to Playa Naranjo, Costa Rica (Coan, Valentich Scott & Bernard, 2000).
- 617 *Tagelus (T.) dombeii* (Lamarck, 1818). Synonym: *Solecurtus coquimbensis* Sowerby, 1874. Anatomy figured (Villarreal & Stuardo, 1977). Length: 90 mm (Hutsell, Hutsell & Pisor, 1999).
- 618 *Tagelus (T.) irregularis* Olsson, 1961. Delete here. As a synonym. See *Tagelus (T.) affinis* (C. B. Adams, 1852) [615].
- 619 *Tagelus (T.) longisinuatus* Pilsbry & Olsson, 1932. Anatomy figured (Villarreal & Stuardo, 1977).

- Extend distribution south to Estero Sábalo, Sonora, México (Hendrickx & Toledano Granados, 1994).
- 620 *Tagelus (T.) peruanus* (Dunker, 1862). Correct date (Keen & Coan, 1975). Extend distribution north to Estero El Verde, Sinaloa, México (Hendrickx & Toledano Granados, 1994). Size: 80.1 mm (Hutsell, Hutsell & Pisor, 1997).
- 621 *Tagelus (T.) violascens* (Carpenter, 1857). Extend distribution north to Puertecitos, Baja California, México (DuShane, 1962). Delete the last sentence, line 5, beginning, "The figure..." (Keen & Coan, 1975). Delete here. As a synonym. See *Tagelus (T.) californianus* (Conrad, 1837) [616].

Subgenus *Mesopleura* Conrad, 1868

- 622 *Tagelus (M.) bourgeoisae* Hertlein, 1951. Extend distribution south to Tumbes, Perú (Peña, 1971). Distribution: 3°S-29°N (Bernard, 1983a). Distribution confirmed to Yavaros, Sonora, México (García-Cubas & Reguero, 1987). Length: 49 mm (Draper, 1987). Extend distribution north to Isla Tiburón, Golfo de California, México (Luke, 1995).
- 623 *Tagelus (M.) peruvianus* Pilsbry & Olsson, 1971. Extend distribution into the Golfo de California to off Guaymas, Sonora, México (DuShane & Poorman, 1967). Length: 80.1 mm (Draper, 1987).
- 624 *Tagelus (M.) politus* (Carpenter, 1857). Extend distribution south to Tumbes, Perú (Olsson, 1961). Include off Roca Consag, Golfo de California, México, in distribution (DuShane & Brennan, 1969). Correct date of synonym, *Siliquaria nitidissima*, to Dunker 1862 (Keen & Coan, 1975). Intertidal zone (Bernard, 1983a). Include off Bahía San Carlos, Sonora, México, in distribution. Depth: 35 m (F. & L. Poorman, 1988). Include the Islas Galápagos, Ecuador, in distribution (Coan, pers. comm., 1990). Occurrence in the Islas Galápagos doubtful (Finet, 1994b). Extend distribution north to Torrey Pines, La Jolla, California (Luke, 1995). Galápagos distribution confirmed (Kaiser, 1997).

Family SEMELIDAE
Classification follows Coan (1988b).

Genus *Semele* Schumacher, 1817
Subgenus *Semele*, s. s.

- 625 *Semele (S.) bicolor* (C.B. Adams, 1852). Include Puertecitos, Baja California, México, in distribution

- (DuShane, 1962). Holotype figured. Delete *Amphidesma striosum* and *A. ventricosum* C.B. Adams, 1852, as synonyms. Extend distribution south to Perú. Length to 31.3 mm. Depth: intertidal zone to 20 m (Coan, 1988b).
- 626 *Semele (S.) californica* (Reeve, 1853, ex A. Adams MS). Lectotype figured. Distribution: Bahía San Luis Gonzaga, Baja California, to Bahía Santa Maria, Baja California Sur; Isla Venado, Bahía Algodones, to Guaymas, Sonora, México. Length: to 42 mm (Coan, 1988b).
- *Semele (S.) clydosa* F. R. Bernard, 1983a. Synonym: *Amphidesma punctatum* Sowerby, 1833, non Say, 1822. Distribution: Islas Galápagos, Ecuador. Depth: intertidal to 5 m (Bernard, 1983a). Delete here. As a synonym. See *Semele (S.) sowerbyi* Tryon, 1869 [642].
- 627 *Semele (S.) corrugata* (Sowerby, 1833). Lectotype figured. Synonym: *Amphidesma croceum* Gould, 1850. Length: 97.8 mm. Restrict distribution to Ecuador and Perú. Depth: intertidal zone to 9 m (Coan, 1988b).
- *Semele (S.) decisa* (Conrad, 1837). Synonyms: *Amphidesma rubrolineatum* Conrad, 1837; *Semele rubrotincta* Carpenter, "ex Conrad MS," 1857, nom. nud. Holotype figured. Distribution: Santa Barbara County, California, to Cabo San Lucas, Baja California Sur, México. Depth: intertidal zone to 46 m (Coan, 1973). Length: to 119.2 mm. Probably Bahía Magdalena, Baja California Sur, is southernmost record, as Cabo San Lucas record has not been verified in recent years (Coan, 1988b).
- 629 *Semele (S.) elliptica* (Sowerby, 1833). Extend distribution south to Tumbes, Perú (Peña, 1971). Lectotype figured. Distribution: Nicaragua to Ecuador (Coan, 1988b). Extend distribution north to Nayarit, México (Reguero & García-Cubas, 1989).
- 630 *Semele (S.) flavescens* (Gould, 1851). Extend distribution north to Puertecitos, Baja California, México (DuShane, 1962). Distribution: throughout the Golfo de California, México, and south to Perú (Keen & Coan, 1975). Holotype figured (Gemmell, Myers & Hertz, 1987). Type locality corrected from San Diego, California, to Guaymas, Sonora, México. Length: to 69 mm. Distribution: Isla Magdalena, Baja California Sur, throughout the Golfo de California, México, to Perú. Depth: intertidal zone to 5 m (Coan, 1988b). Include the Islas Galápagos, Ecuador, in distribution (Finet, 1991).
- 636 *Semele (S.) lenticularis* (Sowerby, 1833). Extend distribution north to Bahía de los Angeles, Baja California, México (F. & L. Poorman, 1978). Extend distribution north to Puertecitos, Baja California, México (Gemmell, Myers & Hertz, 1987). Synonym: *Amphidesma ventricosum* C.B. Adams, 1852. Holotype figured. Length: to 30.3 mm. Include entire Golfo de California, México, in distribution. Depth: intertidal zone to 44 m (Coan, 1988b).
- 640 *Semele (S.) pilsbryi* Olsson, 1961. Extend distribution south to Isla de la Plata, Ecuador (Shasky, 1984). Holotype figured. Length: to 53.7 mm. Distribution: Guaymas, Sonora, México, to Ecuador. Depth: intertidal zone to 18 m (Coan, 1988b).
- *Semele (S.) rubropicta* Dall, 1871. Synonym: *Semele ashleyi* Hertlein & Grant, 1972. Lectotype figured. Length: 52 mm. Distribution: Bahía Willard, Baja California, and possibly Guaymas, Sonora, in the Golfo de California, México; Alaska to Isla Asunción on the Pacific coast of Baja California Sur, México. Depth: intertidal zone to 55 m (Coan, 1988b).
- 642 *Semele (S.) sowerbyi* Tryon, 1869. Synonyms: *Amphidesma punctatum* Sowerby, 1833, non Say, 1822; *Semele clydosa* F. R. Bernard, 1983 (Coan, 1988a). Lectotype of synonym, *Amphidesma punctatum*, figured. Length: 59.6 mm. Distribution restricted to the Islas Galápagos, Ecuador. Depth: intertidal zone to 13 m (Coan, 1988b).
- 650 *Semele (S.) tortuosa* (C.B. Adams, 1852). Holotype figured. Length: 56.2 mm. Extend distribution south to Puerto Parmar, Guayas Province, Ecuador. Depth: intertidal to 55 m (Coan, 1988b). Include off Bahía San Carlos, Sonora, México, in distribution. Depth: 100 m (F. & L. Poorman, 1988).
- Subgenus *Amphidesma* Lamarck, 1818
- 628 *Semele (A.) craneana* Hertlein & Strong, 1949. Holotype figured. Length: 42 mm. Distribution: Roca Consag, in the upper Golfo de California; Isla Smith, Bahía de los Angeles, Baja California, to Los Frailes, Baja California Sur; Punta San Antonio, Sonora, on the Mexican mainland; Isla Clarión, Islas Revillagigedo, México. Depth: 32 to 110 m (Coan, 1988b).

- 631 *Semele (A.) formosa* (Sowerby, 1833). Include Puertecitos, Baja California, México, in distribution (DuShane, 1962). Synonym: *Semele verruculastra* Keen, 1966 [653] (Coan, 1983b). Lectotype figured. Length: to 77 mm. Distribution: Isla San Pedro Martir, Golfo de California, México, to Santa Elena, Ecuador; Isla del Coco, Costa Rica. Depth: 1.5 to 68 m (Coan, 1988b).
- 638 *Semele (A.) pallida* (Sowerby, 1833). Synonyms: *Semele regularis* Dall, 1915, *non* Smith, 1885; *S. simplicissima* Pilsbry & Lowe, 1932 [647]; *S. paziana* Hertlein & Strong, 1949 [639]; Lectotype figured. Length: 41.1 mm. Distribution: Golfo de California as far north as Bahía San Carlos, Sonora, and Bahía Concepción, Baja California Sur, México, to Tumbes Province, Perú. Depth: 13 to 128 m (Coan, 1988a).
- 639 *Semele (A.) paziana* Hertlein & Strong, 1949. Delete here. As a synonym. See *Semele (A.) pallida* (Sowerby, 1833) [638].
- 649 *Semele (A.) purpurascens* (Gmelin, 1791). As *S. sparsilineata* Dall, 1915 [649]. Extend distribution south to Isla de la Plata, Ecuador (Shasky, 1984). Synonym: *Semele sparsilineata*. Distribution includes the Caribbean (Coan, 1988a). Add synonyms: *Tellina obliqua* Wood, 1815; *Amphidesma variegata* Lamarck, 1818. Lectotype of *Semele sparsilineata* figured. Length: 33.5 mm. Distribution: Bahía San Carlos, Sonora, México, south to Ecuador, including the Islas Galápagos, Ecuador; Isla del Coco, Costa Rica; western Atlantic. Depth: intertidal zone to 78 m (Coan, 1988b). Anatomy figured (Domaneschi, 1995).
- 647 *Semele (A.) simplicissima* Pilsbry & Lowe, 1932. Delete here. As a synonym. See *Semele (A.) pallida* (Sowerby, 1833) [638].
- 651 *Semele (A.) venusta* (Reeve, 1853, *ex* A. Adams MS). Synonym: *Semele incongrua* Carpenter, 1864 (Coan, 1988a). Add synonym: *Semele pulchra* "var." *montereyi* Arnold, 1903. Lectotype figured. Length: 27.8 mm. Distribution: Monterey, California, and into the Golfo de California as far north as Isla Angel de la Guarda, México, and south to Perú; including the Islas Galápagos, Ecuador. Depth: 10 to 183 m (Coan, 1988b). Include Rocas Alijos, México, in distribution. Depth: 90 m (McLean & Coan, 1996b). Include the northern Golfo de California, Mexico, in distribution (Coan, Valentich Scott & Bernard, 2000).
- 653 *Semele verruculastra* Keen, 1966. Delete here. As a synonym. See *Semele (A.) formosa* (Sowerby, 1833) [631].
- Subgenus *Elegantula* de Gregorio, 1884
- *Semele (E.) rupicola* Dall, 1915. Synonym: *Amphidesma rupium* (Sowerby), *auctt., non* (Sowerby, 1833). Lectotype figured. Distribution: South Farallon Island, California, to Cabo San Lucas, Baja California Sur, México. Depth: intertidal zone to 27 m (Coan, 1973a). Lectotype figured. Length: 71.4 mm. Probably occurs no farther south than Bahía Magdalena, Baja California Sur, México, as Cabo San Lucas record not verified in recent years. Depth: intertidal zone to 83 m (Coan, 1988b). Include Rocas Alijos, México, in distribution. Depth: 90 m (McLean & Coan, 1996b). Include off Cabo San Miguel, Baja California, México, in distribution (Hendrickx & Toledano Granados, 1994).
- 646 *Semele (E.) rupium* (Sowerby, 1833). Lectotype figured. Add Isla del Coco, Costa Rica, to distribution. Depth: 1 to 73 m (Coan, 1988b).
- Semele, s. l.*
- 648 *Semele barbarae* (Boone, 1928). Synonyms: *Semele sowerbyi* Lamy, 1912, *non* Tryon, 1869 [648]; *S. purpurascens* (Sowerby, 1833), *non* (Gmelin, 1791) (Coan, 1988a). Neotype figured. Length: 48.5 mm. Distribution: Guerrero, México, to Guayas Province, Ecuador. Depth: 27 to 101 m (Coan, 1988b). Extend distribution north to Isla San Marcos, Golfo de California, México (C. Hertz, 1991).
- 632 *Semele guaymasensis* Pilsbry & Lowe, 1932. Include Roca Consag, Golfo de California, México, in distribution (DuShane & Brennan, 1969). Extend distribution across the Golfo de California to San Felipe, Baja California, México (Gemmell, Hertz & Myers, 1980). Lectotype figured. Length: 27.8 mm. Distribution: Puerto Peñasco, Sonora, throughout the Golfo de California, and south to Bahía Chamela, Jalisco, México. Depth: intertidal zone to 110 m (Coan, 1988b).
- *Semele jamesi* Coan 1988. Holotype figured. Length: 7.3 mm. Distribution: throughout the Golfo de California, México, and south to Ecuador, including Isla del Coco, Costa Rica. Depth: 5 to 161 m (Coan, 1988b). Extend distribution

- northwest to include Rocas Alijos, México, in distribution. Depth: 90 m (McLean & Coan, 1996). Include the Islas Galápagos, Ecuador, in distribution (Kaiser, 1997).
- 633 *Semele jovis* (Reeve, 1853, ex A. Adams MS). Extend distribution north to between San Felipe and Roca Consag, Golfo de California, México (Gemmell, Myers & Hertz, 1987). Synonym: ?*Tellina lamellata* Carpenter, 1857. Delete as synonym: ?*Tellina barbarae* Boone, 1928. Holotype figured. Length: 71.4 mm. Distribution: Bahía de Adair, Sonora, México, to Puntarenas Province, Costa Rica. Depth: intertidal zone to 55 m (Coan, 1988b). Include off Bahía San Carlos, Sonora, México, in distribution. Depth: 35 to 100 m (F. & L. Poorman, 1988).
- 634 *Semele junonia* (Verrill, 1870). Delete here. As a synonym. See *Semele rosea* (Sowerby, 1833) [644].
- 635 *Semele laevis* (Sowerby, 1833). Distribution: Mazatlán, Sinaloa, México, to Ecuador (Keen & Coan, 1975). Add synonym: *Semele laevis costaricensis* Olsson, 1922. Length: 89.0 mm. Extend distribution north to Guaymas, Sonora, México, and south to Perú. Depth: intertidal to 27 m (Coan, 1988b).
- 641 *Semele pulchra* (Sowerby, 1832). Lectotype figured. Synonym: *Semele quentinensis* Dall, 1921 [643]. Distribution: Point Mugu, California, to Perú. Depth: intertidal zone to 46 m. (Coan, 1973a). Add synonyms: *Amphidesma striosum* C.B. Adams, 1852; ?*Mesodesma rubrotincta* Gould, 1857, ex "Sowerby" MS, *nom. nud.* Length: 31.9 mm. Depth: intertidal to 110 m (Coan, 1988b). Distribution: Malaga Cove, California, to Zorritos, Perú, including the southern Golfo de California, México (Coan, Valentich Scott & Bernard, 2000).
- 643 *Semele quentinensis* Dall, 1921. Delete here. As a synonym. See *Semele pulchra* (Sowerby, 1832) [641].
- 644 *Semele rosea* (Sowerby, 1833). Synonyms: *Semele junonia* (Verrill, 1870) [634]; *S. tabogensis* Pilsbry & Lowe, 1932 [645] (Coan, 1988a). Add synonyms: ?*Tellina regularis* Carpenter, 1857; *Semele leana* Dall, 1900. Lectotype figured. Length: 84.8 mm. Distribution: Bahía Magdalena, Baja California Sur, into the Golfo de California as far north as Bahía de los Angeles, Baja California, and Bahía San Carlos, Sonora, México, and south to Perú. Depth: intertidal zone to 113 m (Coan, 1988b). Include the Islas Galápagos, Ecuador, in distribution (Kaiser, 1997).
- 645 *Semele tabogensis* Pilsbry & Lowe, 1932. Delete here. As a synonym. See *Semele rosea* (Sowerby, 1833) [644].
- 637 *Semele verrucosa pacifica* Dall, 1915. Include Roca Consag, Golfo de California, México, in distribution (DuShane & Brennan, 1969). Extend distribution south to the Golfo de Guayaquil, Ecuador (Cruz-P., 1983). Synonyms: *Semele jaramija* Pilsbry & Olsson, 1941; *S. hertleini* Durham, 1950. Holotype of *S. pacifica* figured. Length: 26.6 mm. Distribution: Isla Cedros, Baja California, throughout the Golfo de California, and south to Oaxaca, México. Depth: intertidal to 128 m (Coan, 1988b).
- 652 *Semele verrucosa verrucosa* Mörch, 1860. Synonym: *Semele guaymasensis* Pilsbry & Lowe, *auctt, non* Pilsbry & Lowe, 1932. Lectotype figured. Length: 23.7 mm. Distribution: Nicaragua to Panamá. Depth: intertidal zone to 23 m (Coan, 1988b).
- Genus *Abra* Lamarck, 1818, ex Leach MS
Subgenus *Abra*, s. s.
- *Abra* (*A.*) *californica* Knudsen, 1970. Length: 20.8 mm. Distribution: southern Baja California, México. Depth: 3481 to 3518 m (Knudsen, 1970). Include west of Patton Escarpment (31°12'N, 119°37'W) in distribution. Depth: 3600 to 3950 m (Luke, 1995). Include Tuffs Abyssal Plain, Oregon, in distribution (Coan, Valentich Scott & Bernard, 2000).
- Abra*, s. l.
Keen numbers 654 & 655 belong here (Bernard, 1983a).
- 654 *Abra palmeri* Dall, 1915. As a synonym of *Abra tepocana* Dall, 1915 [655] (Abbott, 1974). As a valid species (Bernard, 1983a).
- 655 *Abra tepocana* Dall, 1915. Extend distribution across the Golfo de California to south of San Felipe, Baja California, México (DuShane & Brennan, 1969). Synonym: *Abra palmeri* Dall, 1915 [654] (Abbott, 1974). Delete *A. palmeri* as a synonym (Bernard, 1983a).
- Genus *Cumingia* Sowerby, 1833

- 656 *Cumingia adamsi* Olsson, 1961, ex Carpenter MS. Add MS (Keen & Coan, 1975). Extend distribution north to Bahía de Mazatlán, Sinaloa, México (Hendrickx & Toledano Granados, 1994).
- 657 *Cumingia lamellosa* Sowerby, 1833. Include the Islas Galápagos, Ecuador, in distribution (Finet, 1985). Length: 21.3 mm (Draper, 1987). Extend distribution north to Cayucos, California (Luke, 1995).
- 659 *Cumingia pacifica* (Dall, 1915). Distribution: north end of the Golfo de California to Guaymas, Sonora, México (Keen & Coan, 1975). Include San Felipe, Baja California, México, in distribution (Gemmell, Myers & Hertz, 1987).

Genus *Semelina* Dall, 1900

- 661 *Semelina subquadrata* (Carpenter, 1857). Extend distribution south to Isla de la Plata, Ecuador (Shasky, 1984). Include off Bahía San Carlos, Sonora, México, in distribution. Depth: 35 m (F. & L. Poorman, 1988).

Superfamily SOLENOIDEA
Family SOLENIDAE

Genus *Solen* Linnaeus, 1758

Correct author from Scopoli, 1777 (Keen & Coan, 1975).

Subgenus *Solen*, s. s.

- 662 *Solen* (*S.*) *crockeri* Hertlein & Strong, 1950. Size: 49.5 mm (Hutsell, Hutsell & Pisor, 1997).
- 665 *Solen* (*S.*) *pazensis* Lowe, 1935. Distribution: 16°N-29°N (Bernard, 1983a). Delete here. As a synonym. See *Solen* (*S.*) *pfeifferi* Dunker, 1862 [666].
- 666 *Solen* (*S.*) *pfeifferi* Dunker, 1862. Extend distribution south to Tumbes, Perú (Peña, 1971). Synonym: *Solen pazensis* Lowe, 1935 [665]. Extend distribution north to San Felipe, Baja California, México (Gemmell, Myers & Hertz, 1987).

Subgenus *Ensisolen* Habe, 1977

- *Solen* (*E.*) *gemmelli* Cosel, 1992. Length: 63 mm. Distribution confined to the San Felipe, Baja California, México, area (Cosel, 1992).
- 667 *Solen* (*E.*) *rostriformis* Dunker, 1862. As *S.*

rosaceus Carpenter, 1864 [667]. Include Puertecitos, Baja California, México, in distribution (DuShane, 1962). Depth: intertidal to 46 m (Hertlein & Grant, 1972). Subgenus changed. Delete *Solen rosaceus* as distribution is north of the Panamic Province. As *Solen* (*E.*) *rostriformis*. Synonym: *Solen lappeanus* Dunker, 1871. Holotype figured. Length: 70 mm. Distribution: Santa Barbara, California, to Mazatlán, Sinaloa, México, including the Golfo de California (Cosel, 1992). Synonym: *Solen rosaceus* Carpenter, 1864 [667] (Coan & Scott, 1997).

Subgenus *Solena* Mörch, 1853

- 668 *Solen* (*S.*) *obliquus rudis* (C.B. Adams, 1852). As a subspecies of the Caribbean *Solen* (*S.*) *obliquus* Spengler, 1794. Length: 160 mm (Woodring, 1982).

Family PHARIDAE
H. & A. Adams, 1858.

Genus *Ensis* Schumacher, 1817

- 669 *Ensis nitidus* (Clessin, 1888). Synonym: *Ensis californicus* Dall, 1899 [669]. Restrict distribution to 25°N-30°N (Bernard, 1983a). Extend the distribution north to San Felipe, Baja California, México. Valve interior figured (Gemmell, Myers & Hertz, 1987). As *Ensis californicus*. Length: 89 mm (Draper, 1987). Extend distribution north to Newport Bay, California (Luke, 1995). As *Ensis nitidus* by Coan, Valentich Scott & Bernard (2000).

Order MYOIDA
Suborder MYINA
Superfamily MYOIDEA
Family MYIDAE

Subfamily MYINAE Lamarck, 1809

Genus *Platyodon* Conrad, 1857

- *Platyodon cancellatus* (Conrad, 1837). South of Isla Carmen, Golfo de California, México (Hendrickx & Toledano Granados, 1994). Synonym: *Cryptomya myoides* Carpenter, 1864, ex Nuttall MS. Distribution: British Columbia, Canada, to Isla Cedros, Baja California, México. Depth: low intertidal zone to 20 m (Coan, Valentich

Scott & Bernard, 2000).

Subfamily **CRYPTOMYINAE**
Habe, 1977

Genus *Cryptomya* Conrad, 1848

- 671 *Cryptomya californica* (Conrad, 1837). Synonyms: *Cryptomya quadrata* Arnold, 1909; *C. washingtoniana* Weaver, 1912; *C. oregonensis* Dall, 1919; *C. busoensis* Yokoyama, 1922; *Mya inopia* Hanna, 1924. Add northwest Pacific to distribution (Bernard, 1983a). Include San Felipe, Baja California, México, in distribution (Gemmell, Myers & Hertz, 1987). Anatomy and egg figured (Lawry, 1987). Include Anconcillo, Chimbote, Perú, in distribution (Paredes *et al.*, 1998). Synonyms: *Cryptomya ovalis* Conrad, 1857; *Macoma kerica* Hendrickson, 1928. Include the entire Golfo de California, México, in distribution (Coan, Valentich Scott & Bernard, 2000).

Genus *Sphenia* Turton, 1822

- 673 *Sphenia fragilis* (H. & A. Adams, 1854). As *Sphenia luticola* (Valenciennes, 1846). Synonyms: *Sphenia fragilis* (H. & A. Adams, 1856) [673]; *S. trunculus* Dall, 1916; *S. pholadidea* Dall, 1916; *Cuspidaria nana* Oldroyd, 1918. Include the Islas Galápagos, Ecuador, in distribution. Depth: 10 to 55 m (Bernard, 1983a). Occurrence in the Islas Galápagos doubtful (Finet, 1985). Valve exterior and detail of ligament figured. Include San Felipe, Baja California, México, in distribution (Gemmell, Myers & Hertz, 1987). Galápagos distribution restated (Bernard, McKinnell & Jamieson, 1991). Occurrence in the Islas Galápagos doubtful (Finet, 1994b). Synonym: *Sphenia ovoidea* Carpenter, 1864 (Coan & Scott, 1997). Size: 33 mm (Hutsell, Hutsell & Pisor, 1997). As *S. fragilis* (H. & A. Adams, 1854). Synonyms: *Sphenia fragilis* Carpenter, 1857; *S. pacificensis* de Folin, 1867; *S. trunculus* Dall, 1916. Distribution: Santa Barbara County, California, to Guayas Province, Ecuador. *Sphenia luticola* is a valid species that occurs north of the Panamic Province (Coan, 1998b). Synonyms: *Tyleria fragilis* H. & A. Adams, 1854 (holotype figured); *Sphenia fragilis* Carpenter, 1857 (lectotype designated and figured); *S. pacificensis* de Folin, 1867 (lectotype designated

and figured); *Corbula iheringiana* Pilsbry, 1897 (lectotype designated); *Sphenia antillensis* Dall & Simpson, 1901 (holotype figured); *S. trunculus* Dall, 1916 (lectotype designated and figured); *S. luticola* Valenciennes, *auctt.*, *non* Valenciennes, 1846. Length to 12.7 mm. Distribution: Santa Barbara County, California, throughout the Golfo de California, to its head at Puerto Peñasco, Sonora, México, south to Salinas, Guayas Province, Ecuador. Depth: intertidal zone to 55 m. In the western Atlantic from South Carolina, Florida, Texas, and south to Bahía Maldonado, Maldonado Department, Uruguay (Coan, 1999b).

- *Sphenia gulfensis* Coan, 1999. As *Sphenia* n. sp. A. Distribution restricted to soft bottoms in the Golfo de California, México (Coan, 1998b). As *Sphenia gulfensis*. Length: 13.1 mm. Distribution: Bahía la Cholla, Sonora, south to Mazatlán, Sinaloa, and San Felipe, Baja California, to Puerto Escondido, Baja California Sur, México. Depth: intertidal zone to 61 m (Coan, 1999b).

Family CORBULIDAE

My thanks to Eugene V. Coan, coauthor for this family, who is currently completing a paper on the group.

Subfamily **CORBULINAE**
Lamarck, 1818

Genus *Corbula* Bruguière, 1797

Division of this genus into separate genera is premature, as is assignment of many species to named subgenera (Coan, in preparation).

Subgenus *Caryocorbula* Gardner, 1926

As genus (Coan & Scott, 1997). As a subgenus. Synonym: *Serracorbula* Olsson, 1961 (Coan, in preparation).

- 674 *Corbula* (*C.*) *amethystina* (Olsson, 1961). Length: 30.8 mm. Distribution: Mazatlán, Sinaloa, and La Paz, Baja California Sur, México, to Playas, Guayas, Ecuador; intertidal zone to 82 m (Coan, in preparation).
- 675 *Corbula* (*C.*) *luteola* (Carpenter, 1864). As subgenus *Lentidium* Cristofori & Jan, 1832. Add synonym: *Corbula luteola rosea* Williamson, 1905, *non* Reeve, 1844 (Hertlein & Grant, 1972). Distribution: Monterey, California, to the Golfo de California, México (McLean, 1978). In lagoons along the Sonoran coast of México from Guaymas

- to Agiabampo (García-Cubas & Reguero, 1987). Extend distribution into the Golfo de California to off Bahía Tepoca, Sonora, México (Hendrickx & Toledano Granados, 1994). As genus *Juliacorbula* by Coan & Scott (1997). Distribution: Monterey Bay, California, to Cabo San Lucas, Baja California Sur, and throughout the Golfo de California, México. Depth: low intertidal zone to 60 m (Coan, Valentich Scott & Bernard, 2000). Delete here. Subgenus changed. See under *Corbula*, s. l.
- 676 *Corbula* (*C.*) *marmorata* (Hinds, 1843). Distribution: 2°S-28°N (Bernard, 1983a). Extend distribution across the Golfo de California, to near San Felipe, Baja California, México (Gemmell, Myers & Hertz, 1987). Include off Bahía San Carlos, Sonora, México, in distribution. Depth: 35 m (F. & L. Poorman, 1988). Include the Islas Galápagos, Ecuador, in distribution (Kaiser, 1997). Delete here. Subgenus changed. See under *Corbula*, s. l.
- 677 *Corbula* (*C.*) *nasuta* G. B. Sowerby I, 1833. Depth: 90 m (Cruz-P., 1977). Synonyms: *Corbula nuciformis* G. B. Sowerby I, 1833 [678]; *C. fragilis* Hinds, 1843; *C. alba* Philippi, 1846; *C. pustulosa* Carpenter, 1857; *Serracorbula tumaca* Olsson, 1961 [690]. Length to 18.4 mm. Distribution: Isla Natividad, Baja California Sur, throughout the Golfo de California to its head at Puerto Peñasco, Sonora, México, and to Callao, Lima Province, Perú; including Isla del Coco, Costa Rica, and the Islas Galápagos, Ecuador. Depth: intertidal zone to 152 m. Western Atlantic homologue is *Corbula* (*Caryocorbula*) *kjoeriana* C. B. Adams, 1852, from which it may not be distinguishable (Coan, in preparation).
- 678 *Corbula* (*C.*) *nuciformis* Sowerby, 1833. Extend distribution north to near Santa Rosalia, Baja California Sur, México (Draper, 1972). Extend distribution south to Perú (Abbott, 1974). Distribution south to Isla Lobos de Tierra, Perú (6°21'S), confirmed (Valdivieso, 1984). Extend distribution across Golfo de California to Bahía San Carlos, Sonora, México (F. & L. Poorman, 1988). Delete here. As a synonym. See *Corbula nasuta* [677].
- 679 *Corbula* (*C.*) *obesa* Hinds, 1843. Extend distribution into the Golfo de California to off Bahía San Carlos, Sonora, México (DuShane & Poorman, 1967). Delete here. Subgenus changed. See *Corbula* (*Varicorbula*) *obesa* [679].
- 680 *Corbula* (*C.*) *ovulata* G. B. Sowerby I, 1833. Length: 25.8 mm (Draper, 1987). Length to 29.2 mm. Distribution: Playa Tamarindo, Guanacaste Province, Costa Rica, to Cabo Blanco, Piura Province, Perú; intertidal zone to 55 m (Coan, in preparation).
- 681 *Corbula* (*C.*) *porcella* Dall, 1916. Extend distribution into the Golfo de California to near Bahía San Carlos, Sonora, México (DuShane & Poorman, 1967). Extend distribution south to Esmeraldas, Ecuador (Cruz-P., 1977). Distribution restricted from 17°N to 33°N (Bernard, 1983a). Include Isla del Coco, Costa Rica, in distribution (Bernard, McKinnell & Jamieson, 1991). Distribution: Santa Rosa Island, California, to Isla Cedros, Baja California, México. Records as far south as Panamá are probably misidentifications of other species (Coan, Valentich Scott & Bernard, 2000). Length to 10.2 mm. Distribution: Esteros Bay, San Luis Obispo County, California, to Bahía Magdalena, Baja California Sur, México. Depth: 27 to 210 m. Other Panamic records are based on *Corbula nasuta* (Coan, in preparation).
- 682 *Corbula* (*C.*) *ventricosa* Adams & Reeve, 1850. Delete here. This species has been misinterpreted. See *Corbula* (*Panicorbula*) *ventricosa* [688]. *Corbula ventricosa*, auctt., is a new species. See under *Corbula*, s. l, new species 3
- ***Corbula* (*C.*) new species 1** Synonym: *Corbula ovulata*, auctt., in part. Length to 26.1 mm. Distribution: Isla Carmen, Baja California Sur, and Guaymas, Sonora, México, to La Libertad, Guayas Province, Ecuador. Depth: intertidal zone to 55 m (Coan, in preparation).
- Subgenus *Hexacorbula* Olsson, 1932
- 683 *Corbula* (*H.*) *esmeralda* Olsson, 1961. Depth: 47 m (Cruz-P., 1977). Include Isla del Coco, Costa Rica, in distribution (Bernard, McKinnell & Jamieson, 1991). Length to 22.5 mm. Distribution: Esmeraldas, Esmeraldas Province, to Manabí Province, Ecuador. Record from Isla del Coco, Costa Rica by Bernard, McKinnell & Jamieson (1991), undoubtedly in error (Coan, in preparation).
- Subgenus *Juliacorbula*
Olsson & Harbison, 1953
- As a genus (Coan & Scott, 1997; Coan, Valentich Scott & Bernard, 2000). As a subgenus (Coan, in

preparation).

- 684 *Corbula (J.) bicarinata* G. B. Sowerby I, 1833. Include Puertecitos, Baja California, México, in distribution (DuShane, 1962). Extend distribution south to Perú (Abbott, 1974). Depth to 9 m (Cruz-P., 1977). Include the Islas Galápagos, Ecuador, in distribution (Bernard, 1983a). Occurrence in the Islas Galápagos doubtful (Finet, 1985). Include San Felipe, Baja California, México, in distribution (Gemmell, Myers & Hertz, 1987). Galápagos distribution restated (Bernard, McKinnell & Jamieson, 1991). Occurrence in the Islas Galápagos doubtful (Finet, 1994b). Galápagos distribution confirmed (Kaiser, 1997). Length to 13.0 mm. Distribution: head of the Golfo de California at Puerto Peñasco, Sonora, México, to Zorritos, Tumbes Province, Perú, and including the Islas Galápagos, Ecuador. Depth: intertidal zone to 110m. A homologous western Atlantic species is *Corbula (Juliacorbula) aequivalvis* Philippi, 1836 (Coan, in preparation).
- 685 *Corbula (J.) biradiata* Sowerby, 1833. Extend distribution north to Puertecitos, Baja California, México (DuShane, 1962). Extend distribution south to Perú (Abbott, 1974). Include the Islas Galápagos, Ecuador, in distribution (Bernard, 1983a). Occurrence in the Islas Galápagos doubtful (Finet, 1985). Distribution south to Paita, Perú, confirmed (Alamo & Valdivieso, 1987). Delete Galápagos distribution (Bernard, McKinnell & Jamieson, 1991). Delete here. Subgenus changed. See under *Corbula s. l.* [685].
- 686 *Corbula (J.) elenensis* (Olsson, 1961). Depth: 43 to 90 m (Cruz-P., 1977). Delete here. As a synonym. See *Corbula biradiata* under *Corbula s. l.* [685].
- 687 *Corbula (C.) ira* Dall, 1908. Extend distribution north to near Santa Rosalia, Baja California Sur, México (Draper, 1972). Extend distribution south to Esmeraldas, Ecuador. Depth: 47 m (Cruz-P., 1977). Extend distribution north to Bahía de los Angeles, Baja California, México (F. & L. Poorman, 1978). Extend distribution south to the Golfo de Guayaquil, Ecuador (Cruz-P., 1983). Extend distribution across the Golfo de California to Bahía San Carlos, Sonora, México (F. & L. Poorman, 1988). Specimen figured in Keen (1971) is not a holotype but syntype (Kabat, 1996). Delete here. Subgenus changed. See under *Corbula s. l.* [687].

Subgenus *Panamicorbula* Pilsbry, 1932

- 688 *Corbula (P.) ventricosa* A. Adams & Reeve, 1850 (not *C. ventricosa*, auctt.). Synonyms: *Potamomya aequalis*, *P. inflata* [689], and *P. trigonalis* C. B. Adams, 1852; *Corbula macdonaldi* Dall, 1912; *Panamicorbula cylindrica* Morrison, 1946. Length to 35.0 mm. Distribution: Topolobampo, Sinaloa, México, to Puerto Pizarro, Tumbes Province, Perú. Intertidal zone in mangrove swamps (Coan, in preparation).
- 689 *Corbula (P.) inflata* (C. B. Adams, 1852). Delete here. As a synonym. See *Corbula (P.) ventricosa* [688].

Subgenus *Serracorbula* Olsson, 1961

- 690 *Corbula (S.) tumaca* (Olsson, 1961). Extend distribution north to the Golfo de Fonseca, El Salvador (Hernández, 1979). Delete here As a synonym. See *Corbula nasuta* [677].

Subgenus *Tenuicorbula* Olsson, 1932

- 691 *Corbula (T.) tenuis* G. B. Sowerby I, 1833. Extend distribution north to Puertecitos, Baja California, México (DuShane, 1962). Distribution: 3°S-8°N (Bernard, 1983a). Synonym: *Corbula glypta* Li, 1930. Length to 24.5 mm. Distribution: Isla Tiburón, Sonora, México, to Zorritos, Tumbes Province, Perú. Depth: intertidal zone to 73 m (Coan, in preparation).

Subgenus *Varicorbula* Grant & Gale, 1931

- 679 *Corbula (V.) obesa* Hinds, 1843. Synonym: *Corbula nuciformis*, auctt., non G. B. Sowerby I, 1833. Length to 22.5 mm. Distribution: possibly as far north as Isla Cedros, Baja California; Isla Espíritu Santo, Baja California Sur, and Mazatlán, Sinaloa, México, to Veraguas Province, Panamá. Depth: 14 to 205 m (Coan, in preparation).
- 692 *Corbula (V.) speciosa* Reeve, 1843. Extend distribution across the Golfo de California to Bahía San Carlos, Sonora, México. Depth: 20 to 35 m (DuShane & Poorman, 1967). Size: 19.7 mm (Hutsell, Hutsell & Pisor, 1997). Delete here. Subgenus changed. See under *Corbula s. l.* [692].
- *Corbula (V.) new species 2*. Length: 11.0 mm. Off Isla San Lorenzo, Baja California Sur, México.

Depth: 732 m (Coan, in preparation).

Corbula, s. l.

The following six species cannot be confidently assigned to named subgenera (Coan, in preparation).

- 685 *Corbula biradiata* Sowerby, 1833. Synonyms: *Corbula rubra* C. B. Adams, 1852; *C. polychroma* Gould & Carpenter, 1857; *C. ecuabula* Pilsbry & Olsson, 1941; *Juliacorbula elenensis* Olsson, 1961 [686]. Length to 20.8 mm. Distribution: Laguna Ojo de Liebre, Baja California, into the Golfo de California as far north as Bahía San Luis Gonzaga, Baja California, and Isla San Jorge, Sonora, México, to Punta Peña Mala, Piura Province, Perú, and including the Islas Galápagos, Ecuador. Depth: intertidal zone to 57 mm (Coan, in preparation).
- 687 *Corbula ira* Dall, 1908. Length to 13.6 mm. Distribution: Cabo Lobos, Sonora, and Bahía San Luis Gonzaga, Baja California, México, to Callao, Lima Province, Perú. Depth: 15 to 388 m (Coan, in preparation).
- 675 *Corbula luteola* (Carpenter, 1864). Synonym: *Corbula luteola rosea* Williamson, 1905, *non* Brown, 1843. Length to 10.2 mm. Distribution: Monterey, Monterey County (in warm-water years); Topanga, Los Angeles County, California, to Bahía Magdalena, Baja California Sur, México; intertidal zone to 80 m. Other Panamic records are based on specimens of *Corbula marmorata* (Hinds, 1843) (Coan, in preparation).
- 676 *Corbula marmorata* (Hinds, 1843). Length to 10.2 mm. Distribution: Bahía Magdalena, Baja California Sur, throughout the Golfo de California to its head at Puerto Peñasco, Sonora, México, to Callao, Lima Province, Perú; also present in the western Atlantic; intertidal zone to 137 m. Record from the Islas Galápagos, Ecuador, was based on a misidentification (Coan, in preparation).
- 692 *Corbula speciosa* Reeve, 1843. Synonym: *Corbula radiata* G. B. Sowerby I, 1833, *non* Deshayes, 1824. Length to 20.6 mm. Distribution: San Felipe, Baja California, and Isla Tiburón, Sonora, México, to Punta Utria, Choco Province, Colombia. *Corbula speciosa* may not be distinguished from the western Atlantic *Corbula dietziana* C. B. Adams, 1852 (Coan, in preparation).
- *Corbula new species* 3. Synonym: *Corbula ventricosa*, *auctt.*, *non* A. Adams & Reeve, 1850.

Length to 14.0 mm. Distribution: Los Corchos, Nayarit, to Bahía Tangola Tangola, Oaxaca, México. Depth: 29 to 112 m (Coan, in preparation).

Family SPHENIOPSIDAE

Genus *Spheniopsis* Sandberger, 1861

- *Spheniopsis frankbernardi* Coan, 1990. Length: 3.2 mm. Distribution: Punta San Pablo, on the Pacific coast of Baja California Sur, to Cabo San Lucas; into the Golfo de California as far north as Puertecitos, Baja California, México, and south to Playas del Coco, Guanacaste Province, Costa Rica. Depth: 13 to 91 m (Coan, 1990b).

Genus *Grippina* Dall, 1912

- 693 *Grippina californica* Dall, 1912. Synonym: *Grippina berryana* Keen, 1971 [693]. Holotype and hinge figured. Distribution: Santa Barbara County, California, to Isla Cedros, Baja California; in the Golfo de California as far north as Punta Gorda, Baja California Sur, México, to Isla del Caño, Puntarenas Province, Costa Rica. Depth: intertidal zone to 42 m (Coan, 1990b). Include Rocas Alijos, México, in distribution. Depth: 20 to 90 m (McLean & Coan, 1996b). Include Bahía Concepción, Baja California Sur, México, in distribution (Coan, Valentich Scott & Bernard, 2000).

Superfamily GASTROCHAENIODEA

Family GASTROCHAENIDAE

Genus *Gastrochaena* Spengler, 1783

Subgenus not assigned

- 694 *Gastrochaena ovata* Sowerby, 1834. Delete here. Subgenus changed. See *Gastrochaena (Rocellaria) ovata* [694].
- *Gastrochaena denticulata* Deshayes, 1855. Distribution: 12°S-6°N, intertidal zone (Bernard, 1983a).
- 695 *Gastrochaena rugulosa* Sowerby, 1834. Occurrence in the Islas Galápagos, Ecuador, doubtful (Finet, 1985). Extend distribution north to Bahía San Carlos, Sonora, México. Depth: 20 m (F. & L. Poorman, 1988). Include Isla del Coco, Costa Rica, in distribution (Bernard, McKinnell &

Jamieson, 1991). Include the Islas Galápagos, Ecuador, in distribution (Finet, 1994b).

- 696 *Gastrochaena truncata* Sowerby, 1834. Synonym: *Gastrochaena folini* Deshayes in de Folin, 1867 (Bernard, 1983a).

Subgenus *Rocellaria* Blainville, 1828

- 694 *Gastrochaena (Rocellaria) ovata* Sowerby, 1834. Include the Islas Revillagigedo, México, in distribution (Strong & Hanna, 1930). Extend distribution into the Golfo de California to near Guaymas, Sonora, México (DuShane & Poorman, 1967). Extend distribution north to off San Felipe, Baja California (DuShane & Brennan, 1969). Anatomy figured. Add tropical west Atlantic to distribution (Carter, 1978). Add synonym: *Gastrochaena hyalina* Sowerby, 1834. Delete as a synonym: *Gastrochaena denticulata* Deshayes, 1857. Distribution: 1°S-28°N, including L'île Clipperton [France]; the Islas Galápagos, Ecuador; Atlantic (Bernard, 1983a). Occurrence in the Islas Galápagos doubtful (Finet, 1985). Galápagos distribution confirmed. Subgenus added. Animal and shell figured. Include Isla del Coco, Costa Rica, in distribution (J. Hertz & Kaiser, 1998). Include the entire Golfo de California, México, in distribution and extend south to Punta Mero, Tumbes, Perú (3.9°S) (Coan, Valentich Scott & Bernard, 2000). Extend distribution south to Cabo Blanco, Piura, Perú (4.15°S) (Mogollón, Peña Gonzáles & Béarez, 2000).

Superfamily HIATELLOIDEA

Family HIATELLIDAE

Subfamily HIATELLINAE J. E. Gray, 1824

Genus *Hiatella* Bosc, 1801, ex Daudin MS

- 697 *Hiatella arctica* (Linnaeus, 1767). Include Bahía San Carlos, Sonora, México, in distribution (DuShane & Poorman, 1967). Synonyms: *Hiatella solida* (Sowerby, 1834) [698] and ca. 50 others worldwide. A cosmopolitan species that reaches ca. 70 mm in the Arctic (Beu, 1971). Hinge figured. Include San Felipe, Baja California, México, in distribution (Gemmell, Myers & Hertz, 1987). Include the Islas Galápagos, Ecuador, in distribution (Kaiser, 1997). Distribution on the west coast of the Americas from Alaska to Chile

(Coan, Valentich Scott & Bernard, 2000).

- 698 *Hiatella solida* (Sowerby, 1834). Delete here. As a synonym. See *Hiatella arctica* (Linnaeus, 1767) [697].

Genus *Panopea* Ménard, 1807

- 699 *Panopea globosa* Dall, 1898. Include San Felipe, Baja California, México, in distribution (Gemmell, Myers & Hertz, 1987). Extend distribution south along the Baja side of the Golfo de California to off Isla Danzante. Valve taken at 135 m (Mulliner, 1996). Extend distribution south to off Isla Pájaros, Sinaloa, México (Hendrickx & Toledano Granados, 1994).

Suborder PHOLADINA

Superfamily PHOLADOIDEA

Family PHOLADIDAE

Subfamily PHOLADINAE

Genus *Pholas* Linnaeus, 1758

Subgenus *Thovana*

Gray, 1847, ex Leach MS

- 700 *Pholas (T.) chiloensis* Molina, 1782. Changed from subgenus *Pholas*. Add synonym: *P. macrostoma* Philippi, 1858 (Bernard, 1983a). Include San Felipe, Baja California, México, in distribution (Gemmell, Myers & Hertz, 1987).

Genus *Barnea* Risso, 1826

Subgenus *Anchomasa* Leach, 1852

- 701 *Barnea (A.) subtruncata* (Sowerby, 1834). Extend distribution into the Golfo de California to off Guaymas, Sonora, Mexico (DuShane & Poorman, 1967). Add synonym: *Pholas spathulata* Deshayes, 1843. Add subgenus (Kennedy, 1974). Extend distribution north in the Golfo de California to San Felipe, Baja California, México (Gemmell, Myers & Hertz, 1987). Include throughout the Golfo de California, México, in distribution (Coan, Valentich Scott & Bernard, 2000).

Genus *Cyrtopleura* Tryon, 1862

- 702 *Cyrtopleura crucigera* (Sowerby, 1834). Synonyms: *Cyrtopleura "crucifera," auctt., nom. null.*; *C. exilis* (Tryon, 1870) (Abbott, 1974).

Genus *Zirfaea*

Gray, 1842, ex Leach MS

- *Zirfaea pilsbryi* Lowe, 1931. Length: 120 mm. Distribution: Arctic coast of Alaska to Bahía Magdalena, Baja California Sur, México (Kennedy, 1974). Depth: intertidal zone to 125 m (Bernard, 1983a). Size: 143 mm (Hutsell, Hutsell & Pisor, 1997). Synonyms: *Zirfaea gabbi femii* Adegoke, 1969; *Pholas crispata* Linnaeus, *auctt.*, non Linnaeus, 1776; *Zirfaea gabbi* (Tryon), *auctt.*, non Tryon, 1863 (Coan, Valentich Scott & Bernard, 2000).

Subfamily JOUANNETIINAE

Genus *Jouannetia* des Moulins, 1828Subgenus *Jouannetia*, *s. s.*

- 703 *Jouannetia* (*J.*) *duchassaingi* Fischer, 1862. Extend distribution north to Playa Naranjo, Costa Rica (Kemperman, 1990).

Genus *Pholadopsis* Conrad, 1849

Raised from subgenus (Kennedy, 1974).

- 704 *Pholadopsis pectinata* (Conrad, 1849). Distribution: Isla Cedros, Baja California, through the Golfo de California, México, and south to Perú (Kennedy, 1974).

Subfamily MARTESIINAE

Genus *Martesia* Sowerby, 1824Subgenus *Martesia*, *s. s.*

- 706 *Martesia* (*M.*) *fragilis* Verrill & Bush, 1898. Add synonym: *Pholadidea* (*Diploplax*) *exquisita* Bartsch & Rehder, 1945; *P. (D.) bahamensis* Bartsch & Rehder, 1945. Distribution: 9°N-20°N; also in Atlantic Ocean (Bernard, 1983a). Include the Caribbean in distribution (Bernard, McKinnell & Jamieson, 1991).
- 705 *Martesia* (*M.*) *striata* (Linnaeus, 1758). Add synonyms: *Pholas clavata* Lamarck, 1818; *P. tenuistriata* Blainville, 1826; *P. rosea* C.B. Adams, 1850; *P. cupula* Yokoyama, 1924; *Martesia striata tokyoensis* Yokoyama, 1927; *M. pulchella* Yokoyama, 1932; *M. hawaiiensis* Dall, Bartsch & Rehder, 1938; *Mesopholas intusgranosa* Take &

Habe, 1945; *M. nucicola* Take & Habe, 1945; *Martesia* (*Diploplax*) *funiscola* Bartsch & Rehder, 1945; *M. (D.) americana* Bartsch & Rehder, 1945. Cosmopolitan in warm waters (Bernard, 1983a).

Subgenus *Particoma* Bartsch & Rehder, 1945

- 707 *Martesia* (*P.*) *cuneiformis* (Say, 1822). Add the Islas Galápagos, Ecuador, to distribution (Keen & Coan, 1975). Synonym: *Pholas caribaea* d'Orbigny, 1842. Add subgenus (Bernard, 1983a). Occurrence in the Islas Galápagos doubtful (Finet, 1985). Galápagos distribution restated (Bernard, McKinnell & Jamieson, 1991).

Genus *Diplothyra* Tryon, 1862

- 708 *Diplothyra curta* (Sowerby, 1834). Distribution restricted 17°N-30°N (Bernard, 1983a). Valve interior and exterior figured. Include San Felipe, Baja California, México, in distribution (Gemmell, Myers & Hertz, 1987).

Genus *Parapholas* Conrad, 1848

- 710 *Parapholas calva* (Sowerby, 1834). Distribution: 1°S-29°N, including the Islas Galápagos, Ecuador. Intertidal zone (Bernard, 1983a). Occurrence in the Islas Galápagos doubtful (Finet, 1985). Include off Bahía San Carlos, Sonora, México, in distribution. Depth: 35 m (F. & L. Poorman, 1988). Galápagos distribution restated (Bernard, McKinnell & Jamieson, 1991). Occurrence in the Islas Galápagos doubtful (Finet, 1994b). Galápagos distribution confirmed (Kaiser, 1997).

Genus *Penitella* Valenciennes, 1848

- *Penitella penita* (Conrad, 1837). Distribution: Mendocino County, California, to Bahía San Bartolomé, central Baja California, México (McLean, 1978). Include the Islas Revillagigedo, México, in distribution (Bernard, McKinnell & Jamieson, 1991). Synonyms: *Pholas concamerata* Deshayes, 1839; *Penitella speloea* Conrad, 1855; *Pholas curvata* Tryon, 1865; *Pholadidea penita sagita* Dall, 1916, ex Stearns MS. Distribution: Prince William Sound, Alaska, to Punta Pequeña, (26.2°N) Baja California Sur, México (Coan, Valentich Scott & Bernard, 2000).

Subfamily XYLOPHAGAINAE

Genus *Xylophaga* Turton, 1822

- *Xylophaga globosa* Sowerby, 1835. Distribution: Panamá to Chile (Kennedy, 1974).
- 715 *Xylophaga mexicana* Dall, 1908. Distribution: southern California to Acapulco, Guerrero, México (Kennedy, 1974).

Family TEREDINIDAE
Subfamily TEREDININAEGenus *Teredo* Linnaeus, 1758
Subgenus *Teredo*, s. s.

- 722 *Teredo* (*T.*) *bartschi* Clapp, 1923. Extend distribution to Laguna Caimanero [near Mazatlán], Sinaloa, México (Hendrickx, 1980). Synonyms: *Teredo* (*Teredo*) *batilliformis* Clapp, 1924; *T. (T.) hiloensis* Edmonson, 1942. Cosmopolitan in warm water (Bernard, 1983a). Distribution to Salinas, Ecuador, confirmed (Cruz-P., Torres & Villamar, 1987). Distribution off Santa Barbara, California, confirmed (Coan & Scott, 1997).
- *Teredo* (*T.*) *furcifera* von Martens in Semon, 1894. Pallets figured. Include Manta and Salinas, Ecuador, in worldwide distribution (Cruz-P., Torres & Villamar, 1987).

Genus *Lyrodus* Gould
in Gould & Binney, 1870
Pallets with a brown, easily shed periostracal cap (Keen & Coan, 1975).

- *Lyrodus bipartitus* (Jeffreys, 1860). Distribution: Golfo de Panamá, Panamá; English Channel. Depth: 3270 to 3670 m (Knudsen, 1970).
- *Lyrodus medilobata* (Edmonson, 1942). Pallets figured. Include Manta, Ecuador, in distribution. Previously known from Hawaii and Midway Islands (Cruz-P., Torres & Villamar, 1987).
- *Lyrodus pedicellatus* (Quatrefages, 1849). Synonyms: *Teredo chlorotica* Gould, 1870; *T. diegensis* Bartsch, 1916; *T. (Lyrodus) townsendi* Bartsch, 1922; *T. (Teredops) floridana* Bartsch, 1922; *T. (T.) hawaiiensis* Dall, Bartsch & Rehder, 1938. Cosmopolitan in warm waters, 5°S-38°N (Bernard, 1983a). See Turner (1966) for many additional synonyms. Pallets figured. Include

Manta and Salinas, Ecuador, in distribution (Cruz-P., Torres & Villamar, 1987). Distribution: cosmopolitan in warm seas, now occurring from San Francisco Bay, California, to the Golfo de California, México, and south to Paita Perú (Coan, Valentich Scott & Bernard, 2000).

Genus *Psiloteredo* Bartsch, 1922

- 723 *Psiloteredo healdi* (Bartsch, 1931). Synonym: *Teredo* (*Neoterodo*) *miraflores* Bartsch, 1922, *nom. dub.* [723] (Bernard, 1983a).

Genus *Uperotus* Guettard, 1770

- 724 *Uperotus panamensis* (Bartsch, 1922). Synonym: ?*Teredo lieberkindi* Roch, 1931. Include the Atlantic in distribution (Bernard, 1983a).

Subfamily BANKIINAE

Genus *Bankia* Gray, 1842

Subgenera appear to be invalid (Turner, 1966). Synonyms: *Bankiella* Bartsch, 1921; *Neobankia* Bartsch, 1921 (Coan, Valentich Scott & Bernard, 2000).

- *Bankia bipennata* (Turton, 1819). Pallets figured. Include Salinas, Ecuador, in distribution (Cruz-P., Torres & Villamar, 1987).
- *Bankia carinata* (Gray, 1827). Pallets figured. Include Posorja, Golfo de Guayaquil, Ecuador, in distribution (Cruz-P., Torres & Villamar, 1987). Widely distributed in the tropics. San Diego, California, to Posorja, Ecuador (Coan, Valentich Scott & Bernard, 2000).
- 728 *Bankia cieba* Clench & Turner, 1946. Distribution: Greater Antilles to Colombia; Pacific side of Panamá (Abbott, 1974).
- *Bankia destructa* Clench & Turner, 1946. Distribution: Atlantic and Pacific sides of Central America (Abbott, 1974). Extend distribution north to Laguna Caimanero (near Mazatlán), Sinaloa, México (Hendrickx, 1980). Pallets figured. Include the Naval Base and Posorja, Golfo de Guayaquil, Ecuador, in distribution (Cruz-P., Torres & Villamar, 1987).
- 725 *Bankia gouldi* (Bartsch, 1908). Distribution: 25°N-28°N; Atlantic (Bernard, 1983a). Pallets figured. Include the coast of Ecuador from

Esmeraldas south to Posorja, in the Golfo de Guayaquil (Cruz-P., Torres & Villamar, 1987).

- 726 *Bankia orcutti* Bartsch, 1923. Synonym: *Nausitora sajnakhaliensis* Rajagopal, 1964. Distribution: 26°N-28°N; Indo-Pacific (Bernard, 1983a). Pallets figured. Include the coast of Ecuador from Esmeraldas south to Posorja, in the Golfo de Guayaquil (Cruz-P., Torres & Villamar, 1987).
- 727 *Bankia zeteki* Bartsch, 1921. Extend distribution north to Teacapán, Sinaloa, México (Hendrickx, 1980). Pallets figured. Include Salinas, Ecuador, in distribution (Cruz-P., Torres & Villamar, 1987).

Genus *Nausitora* Wright, 1864

- 730 *Nausitora dryas* (Dall, 1909). In line 3 read: "The shell is grayish white, often stained with reddish brown from boring in mangrove wood." (Keen & Coan, 1975). Include Esmeraldas, Ecuador, in distribution (Cruz-P., Torres & Villamar, 1987).
- 731 *Nausitora excolpa* (Bartsch, 1922). Delete the synonym and the last sentence of the paragraph (Keen & Coan, 1975).

Genus *Nototerredo* Bartsch, 1923

- *Nototerredo knoxi* (Bartsch, 1917). Include Bahía de Panamá, Panamá, in distribution (Keen & Coan, 1975). Pallets figured. Include Esmeraldas and Manta, Ecuador, in distribution (Cruz-P., Torres & Villamar, 1987).

Subclass ANOMALODESMATA

Follows Yonge & Morton (1980) and Morton (1981).

Order PHOLADOMYOIDA Superfamily PANDOROIDEA Family PANDORIDAE

Genus *Pandora* Bruguière, 1797

Subgenus *Pandora*, s. s.

- 732 *Pandora (P.) brevifrons* Sowerby, 1835. Extend distribution north to Roca Consag, Golfo de California, México (DuShane & Brennan, 1969). Valve interior and details of hinge figured (Gemmell, Myers & Hertz, 1987).
- 733 *Pandora (P.) uncifera* Pilsbry & Lowe, 1932. Valve interior and details of hinge figured. Extend distribution north to Bahía San Luis Gonzaga, Baja

California, México (Gemmell, Myers & Hertz, 1987). Include off Bahía San Carlos, Sonora, México, in distribution. Depth: 35 to 50 m (F. & L. Poorman, 1988). Length: 13.5 mm (Hutsell, Hutsell & Pisor, 1999).

Subgenus *Clidiophora* Carpenter, 1864

- 734 *Pandora (C.) arcuata* Sowerby, 1835. As synonym *Pandora claviculata* Carpenter, 1855. Extend distribution into the Golfo de California to near Guaymas, Sonora, México (DuShane & Poorman, 1967). Extend distribution north to off Roca Consag (DuShane & Brennan, 1969). As *P. arcuata*. Lectotype of synonym *Pandora (C.) claviculata* Carpenter, 1856, figured. Lectotype dentition figured. If Olsson's (1961) drawing of the dentition of *P. arcuata* is that species, it must be removed from the subgenus *Clidiophora* (Hertz, Myers & Gemmell, 1985). Size: 57.4 mm (Hutsell, Hutsell & Pisor, 1997).
- 738 *Pandora (C.) cornuta* C.B. Adams, 1852. Bright red periostracum along ventral margin. Extend distribution north to San Felipe, Baja California, México. Figured (Gemmell, 1975). Change subgenus from *Pandorella*. Holotype dentition figured. Distribution: Laguna de Scammon, Baja California Sur; the head of the Golfo de California at San Felipe, Baja California; Puerto Peñasco south to Guaymas, Sonora, México; Panamá (Hertz, Myers & Gemmell, 1985). Length: 35 mm (Wagner & Abbott, 1990).

Subgenus *Foveadens* Dall, 1915.

- 735 *Pandora (F.) panamensis* Dall, 1915. Size: 41.3 mm (Hutsell, Hutsell & Pisor, 1997).

Subgenus *Heteroclidus* Dall, 1903

- 737 *Pandora (H.) punctata* Conrad, 1837. Size: 41.7 mm (Hutsell, Hutsell & Pisor, 1997). Synonym: *Pandora punctata gabbi* Dall, 1903. Distribution: British Columbia, Canada, to Punta Pequeña, Baja California Sur, México (Coan, Valentich Scott & Bernard, 2000).

Subgenus *Pandorella* Conrad, 1863

- 739 *Pandora (P.) bilirata* Conrad, 1855. As synonym

- P. granulata* Dall, 1915 [739]. Extend distribution north to off San Felipe, Baja California, México (DuShane & Brennan, 1969). Distribution restricted from 24°N to 29°N (Bernard, 1983). As *Pandora bilirata*. Synonyms: *Pandora* (*Kennerlyia*) *bicarinata* Carpenter, 1864; *P. delicatula* G. B. Sowerby II, 1874; *P. granulata* Dall, 1915 [739]; *P. (Kennerlyia) pseudobilirata* Nomura & Hatai, 1940. Distribution: Prince William Sound, Alaska, to the Golfo de California, México; Kurile Islands to Honshu, Japan. Depth: subtidal zone to 308 m. Length: 15 mm (Valentich Scott, 1998).
- 740 *Pandora* (*P.*) *radiata* Sowerby, 1835. Distribution: 23°N-28°N (Bernard, 1983a).

Family LYONSIIDAE

Contains only three marine genera. Subgeneric taxa represent ecomorphs and should not be used (Prezant, 1981).

Genus *Lyonsia* Turton, 1822

- 742 *Lyonsia californica* Conrad, 1837. Synonyms: *Lyonsia gouldii* Dall, 1915 [742]; *L. californica haroldi* Dall, 1915. Distribution: 17°N-55°N (Bernard, 1983a). Include San Felipe, Baja California, México, in distribution (Gemmell, Myers & Hertz, 1987). Length: 26.9 mm (Draper, 1987). Extend distribution south to Bahía Cocos, Guanacaste, Costa Rica (Skoglund, 1990a). Include the Islas Galápagos, Ecuador, in distribution (Bernard, McKinnell & Jamieson, 1991). Add synonym: *Lyonsia nesiotes* Dall, 1915 (Coan & Scott, 1997). Add synonym: *Mya striata* Montagu, auctt., non Montagu, 1815. Distribution: Kodiak Island, Alaska, to Acapulco, Guerrero, and including the Golfo de California México. Depth: subtidal zone to 100 m (Valentich Scott, 1998).

Genus *Entodesma* Philippi, 1845

Synonyms: *Agriodesma* Dall, 1909; *Phlycticoncha* Bartsch & Rehder, 1939. Subgeneric taxa should not be used as they represent ecomorphs and are not true taxonomic units (Prezant, 1981).

- 745 *Entodesma brevifrons* (Sowerby, 1834). Delete subgenus *Agriodesma* (Prezant, 1981).
- 744 *Entodesma inflatum* (Conrad, 1837). Delete here. As a synonym of *Entodesma pictum* (Sowerby, 1834) (Bernard, 1983a). *Entodesma inflatum* as a

valid species. Extend distribution south to Paita, Piura Province, Perú (Peña, 1971). Anatomy figured (as *L. inflata*.) (Morton, 1987). Include San Felipe, Baja California, México, in distribution (Gemmell, Myers & Hertz, 1987). Length: 32.2 mm (Draper, 1987). Delete here. As a synonym. See *Entodesma pictum* (Sowerby, 1834) [744].

- 747 *Entodesma lucasanum* (Bartsch & Rehder, 1939). Delete subgenus *Phlycticoncha* (Prezant, 1981).
- 748 *Entodesma pictum* (Sowerby, 1834). Delete subgenus *Phlycticoncha* (Prezant, 1981). Add synonyms: *Lyonsia inflata* Conrad, 1837 [744]; *L. diaphana* Carpenter, 1856; *Entodesma spongiophila* Dall, 1871. Distribution: 4°S-37°N (Bernard, 1983a). Delete *L. inflata* as a synonym (Gemmell, Myers & Hertz, 1987). Include Bahía Magdalena, Baja California Sur, México, in distribution (Luke, 1995). Synonym: *Lyonsia inflata* Conrad, 1837. Distribution: Morro Bay, California, throughout the Golfo de California, México, to Guayaquil, Ecuador (Coan, Valentich Scott & Bernard, 2000).
- 746 *Entodesma sechuranum* Pilsbry & Olsson, 1935. Delete subgenus *Agriodesma* (Prezant, 1981). Extend distribution north to Bahía San Carlos, Sonora, México. Depth: 20 m (F. & L. Poorman, 1988).

Superfamily THRACIOIDEA

Blainville, 1824, ex Leach MS

Family THRACIIDAE

Follows Coan (1990a).

Genus *Thracia* Blainville, 1824, ex Leach MS

Correct author from Sowerby, 1823 (Coan, 1990a).

Subgenus *Ixartia* Gray, 1852

- 758 *Thracia* (*I.*) *anconensis* Olsson, 1961. Holotype figured. Subgenus added (Coan, 1990a).
- 759 *Thracia* (*I.*) *colpoica* (Dall, 1915). Extend distribution north to off Guaymas, Sonora, México (DuShane & Poorman, 1967). Delete here. Genus changed. See *Asthenothaerus*.
- 760 *Thracia* (*I.*) *curta* Conrad, 1837. Include Puertecitos, Baja California, México, in distribution (DuShane, 1962). Subgenus changed. Restrict distribution to 23°N-45°N (Bernard, 1983a). Include San Felipe, Baja California, México, in distribution (Gemmell, Myers & Hertz, 1987). Synonyms: *Lepton clementinum* Carpenter, 1857

[326]; *Thracia quentinensis* Dall, 1921. Holotype figured. Length: 53 mm. Restrict distribution from the San Juan Islands, Washington, to Punta Quepos, Puntarenas Province, Costa Rica. Depth: intertidal zone to 48 m (Coan, 1990a). Synonym: *Ungulina luticola* Valenciennes, 1846 (Coan, Valentich Scott & Bernard, 2000).

Subgenus *Odoncineta* Costa, 1829

- *Thracia (O.) bereniceae* Coan, 1990. Holotype figured. Length: 17.5 mm. Distribution: Bahía la Cholla, Sonora, México, to Bahía Ballena, Golfo de Nicoya, Costa Rica. Depth: intertidal zone to 46 m (Coan, 1990a).
- 761 *Thracia (O.) squamosa* Carpenter, 1856. Subgenus added. Holotype figured. Length: 36 mm. Extend distribution south to Islas Las Perlas, Panamá. Depth: intertidal zone to 61 m (Coan, 1990a). Include Rocas Alijos, México, in distribution. Depth: 90 m (McLean & Coan, 1996).

Genus *Asthenothaerus* Carpenter, 1864

Subgenus *Asthenothaerus*, s. s.

- *Asthenothaerus (A.) diegensis* (Dall, 1915). Lectotype figured. Length: 11.0 mm. Distribution: San Pedro, Los Angeles County, California, to Bahía Magdalena, Baja California Sur, Bahía de los Angeles, Baja California, and Guaymas, Sonora, México. Depth: intertidal zone to 119 m (Coan, 1990a).
- 762 *Asthenothaerus (A.) villosior* Carpenter, 1864. Extend distribution into the Golfo de California, México, to off Roca Consag (DuShane & Brennan, 1969). Extend distribution across the Golfo de California to Bahía San Carlos, Sonora, México. Depth: 35 m (F. & L. Poorman, 1988). Holotype figured. Delete *Thracia diegensis* Dall, 1915, as a synonym. Distribution: Isla Cedros, Baja California, throughout the Golfo de California, México, and south to Punta Quepos, Puntarenas Province, Costa Rica. Depth: intertidal zone to 73 m (Coan, 1990a). Extend distribution north to San Diego, California (Luke, 1995).

Subgenus *Skoglundia* Coan, 1990

- 759 *Asthenothaerus (S.) colpoica* (Dall, 1915). Genus changed from *Thracia* and subgenus added.

Holotype figured. Length: 23.7 mm. Distribution: Guaymas, Sonora, and La Paz, Baja California Sur, México, south to Tumbes Province, Perú. Intertidal zone on mud flats (Coan, 1990a). Extend distribution north to off Bahía Tepoca, Sonora, México (Hendrickx & Toledano Granados, 1994).

Genus *Bushia* Dall, 1886

Subgenus *Bushia*, s. s.

- *Bushia (B.) galapagana* (Dall, 1915). Known only from the Islas Galápagos, Ecuador (Coan, 1989). Holotype figured. Length: 25.9 mm. Known only from Isla del Coco, Costa Rica, and the Islas Galápagos, Ecuador. Depth: 57 to 83 m (Coan, 1990a).
- 763 *Bushia (B.) panamensis* (Dall, 1890). Add parentheses to author's name (Coan, 1990a).
- *Bushia (B.) phillipsi* Coan, 1990. Holotype figured. Length: 23 mm. Known only from Isla Smith, Bahía de los Angeles, Baja California, and Isla Danzante, Golfo de California, México. Depth: 38 to 183 m (Coan, 1990a).

Subgenus *Pseudocyathodonta*

Coan, 1990

- *Bushia (P.) draperi* Coan, 1990. Holotype figured. Length: 28.5 mm. Isla Danzante, Golfo de California, México. Depth: 61 m. Known only from the holotype (Coan, 1990a).

Genus *Cyathodonta* Conrad, 1849

- 764 *Cyathodonta dubiosa* Dall, 1915. Synonym: *Cyathodonta pedroana* Dall, 1915 (Bernard, 1983a). Delete *C. pedroana* Dall, 1915, as a synonym. Holotype figured. Length: 40.2 mm. Distribution: Isla Smith, Bahía de los Angeles, Baja California, and Punta San Antonio, Sonora, to Puerto Guatulco, Oaxaca, México. Depth: 13 to 183 m. Keen (1971) fig. 765 is this species (Coan, 1990a). Extend distribution north to San Pedro, California (Luke, 1995). California distribution records are *Cyathodonta pedroana* (Dall, 1915) (Coan, Valentich Scott & Bernard, 2000).
- 765 *Cyathodonta lucasana* Dall, 1915. Delete here. As a synonym. See *Cyathodonta undulata* Conrad, 1849 [766].
- *Cyathodonta pedroana* (Dall, 1915). Lectotype

figured. Length: 38 mm. Distribution: Monterey Bay, California, to Bahía Magdalena, Baja California Sur, México. Depth: 9 to 114 m (Coan, 1990a). Synonyms: *Cyathodonta dubiosa* Dall *auctt.*, non Dall, 1915; *C. undulata* Conrad, *auctt.*, non Conrad, 1849 (Coan, Valentich Scott & Bernard, 2000).

- *Cyathodonta tumbeziana* Olsson, 1961. Holotype figured. Length: 37.6 mm. Distribution: Puerto Madero, Chiapas, México, to Máncora, Tumbes Province, Perú. Depth: 13 to 26 m (Coan, 1990a).
- 766 *Cyathodonta undulata* Conrad, 1849. Occurrence in the Islas Galápagos doubtful (Finet, 1985). Include San Felipe, Baja California, México, in distribution (Gemmell, Myers & Hertz, 1987). Extend distribution south to Máncora, Perú (Alamo & Valdivieso, 1987). Lectotype figured. Synonym: *Cyathodonta lucasana* Dall, 1915 [765]. Delete as a synonym: *C. tumbeziana* Olsson, 1961. Length: 50.2 mm. Distribution: Bahía Magdalena, Baja California Sur, throughout the Golfo de California, México, and south to Punta Organos, Perú; Islas Galápagos, Ecuador. Intertidal zone (Coan, 1990a). Length: 52.3 mm (Wagner & Abbott, 1990). Extend distribution north to San Pedro, California (Luke, 1995). California distribution records are *Cyathodonta pedroana* (Dall, 1915) (Coan, Valentich Scott & Bernard, 2000).

Family PERIPLOMATIDAE

Genus *Periploma* Schumacher, 1817

Subgenus *Periploma*, *s. s.*

- *Periploma (P.) margaritaceum* (Lamarck, 1801). Synonyms: *Periploma inaequalis* Schumacher, 1817, non *P. inequivalve* Schumacher, 1816, *nom. nud.*; *Anatina trapezoides* Lamarck, 1818; *Osteodesma trapezoidalis* Blainville, 1825, *ex* Lamarck MS; *Thracia inequalis* C.B. Adams, 1850. Interior figured. Length: 16.1 mm. Distribution: Bahía Chamela, Jalisco, México; South Carolina to Texas; Caribbean (Bernard, 1989). Extend distribution north to Punta Raza, Nayarit, México (Skoglund, 1991b).
- 753 *Periploma (P.) planiusculum* Sowerby, 1834. Extend distribution north to Puertecitos, Baja California, México (DuShane, 1962). Include Guaymas, Sonora, México, in distribution (DuShane & Poorman, 1967). Include San Felipe,

Baja California, México, in distribution (Gemmell, Myers & Hertz, 1987). Length: 65.6 mm (Draper, 1987). Distribution: Point Conception, California, to Tumbes, Perú (Bernard, 1989). Include throughout the Golfo de California in distribution (Coan, Valentich Scott & Bernard, 2000).

Subgenus *Albimanus*

Pilsbry & Olsson, 1935

- 765 *Periploma (A.) pentadactylus* (Pilsbry & Olsson, 1935). Delete here. Genus changed. See *Albimanus pentadactylus* [765].

Subgenus *Cricoploma* F. R. Bernard, 1989

- 749 *Periploma (C.) carpenteri* Dall, 1896. Extend distribution north to Bahía San Carlos, Sonora, México. Depth to 100 m (F. & L. Poorman, 1988). Subgenus changed (Bernard, 1989). Include the Golfo de Tehuantepec, México, in distribution. Depth: 91 to 110 m (Luke, 1995).
- 750 *Periploma (C.) discus* Stearns, 1890. Extend distribution into the Golfo de California to near Bahía San Carlos, Sonora, México (DuShane & Poorman, 1967). Holotype figured (Rosewater, 1980). Subgenus changed. Distribution restricted from 23°N to 37°N (Bernard, 1983a). Length: 37.4 mm (Draper, 1987). Interior figured (Bernard, 1989). Holotype figured. Extend distribution south to Isla Herradura, Costa Rica. Depth: intertidal to 40 m (Valentich Scott, 1998).
- 751 *Periploma (C.) largatillum* Olsson, 1961. Subgenus changed (Bernard, 1989).
- 752 *Periploma (C.) lenticulare* Sowerby, 1834. Extend distribution north to near Santa Rosalia, Baja California Sur, México (Draper, 1972). Subgenus changed. Add synonym: *Periploma obtusa* Hanley, 1842 (Bernard, 1989).
- 754 *Periploma (C.) stearnsii* Dall, 1896. Holotype figured (Rosewater, 1980). Subgenus changed (Bernard, 1989). Extend distribution south to Bahía de Mazatlán, Sinaloa, México (Hendrickx & Toledano Granados, 1994).
- 755 *Periploma (C.) teevani* Hertlein & Strong, 1946. Subgenus changed (Bernard, 1989). Extend distribution north to off Mazatlán, Sinaloa, México (Hendrickx & Toledano Granados, 1994).

Subgenus *Halistrepta* Dall, 1904

- 757 *Periploma (H.) myrae* Rogers, 1962. Delete here. Genus changed. See *Halistrepta myrae* [757].

Genus *Albimanus* Pilsbry & Olsson, 1935

Raised from subgenus (Bernard, 1989).

- 756 *Albimanus pentadactylus* (Pilsbry & Olsson, 1935). Extend distribution north to El Salvador (Hernández, 1979). Holotype figured. Interior figured (Bernard, 1989).

Genus *Halistrepta* Dall, 1904

Raised from subgenus (Bernard, 1989).

- 757 *Halistrepta myrae* (Rogers, 1962). Holotype figured (Bernard, 1989).

Order SEPTIBRANCHIDA

Pelseneer, 1888

Superfamily CUSPIDARIOIDEA

Dall, 1886

Family CUSPIDARIIDAE

Genus *Cuspidaria* Nardo, 1840

- 772 *Cuspidaria chilensis* Dall, 1908. Holotype figured (Bernard, 1974).

- *Cuspidaria haasi* Knudsen, 1970. Length: 34.2 mm. Anatomy figured. Distribution: off Central America. Depth: 3570 m (Knudsen, 1970). Holotype figured. Known only from the type locality (Bernard, 1974).

- 773 *Cuspidaria panamensis* Dall, 1908. Holotype figured (Bernard, 1974). Distribution restricted to 7°N (Bernard, 1983a). Include off Bahía San Carlos, Sonora, México, in distribution. Depth: 100 m (F. & L. Poorman, 1988).

- 774 *Cuspidaria parapodema* Bernard, 1969. Holotype, anatomy and hinge figured (Bernard, 1974). Holotype figured. Distribution: Point San Luis, California, to Bahía Elena, Costa Rica. Depth: 50 to 410 m (Valentich Scott, 1998). Include the Golfo de California, México, in distribution (Coan, Valentich Scott & Bernard, 2000).

- *Cuspidaria parkeri* Knudsen, 1970. Length: 19.2 mm. Anatomy figured. Distribution: Golfo de California, México (23°N). Depth: 2800 m (Knudsen, 1970). Holotype figured. Known only from the type locality (Bernard, 1974).

- 775 *Cuspidaria patagonica* (E. A. Smith, 1885).

Holotype figured (Bernard, 1974). Delete. Distribution restricted to 50°S (Bernard, 1983a).

Genus *Cardiomya* A. Adams, 1864

- *Cardiomya balboae* (Dall, 1916). Holotype figured. Distribution: California. Depth: 55 to 128 m (Bernard, 1974). Distribution: 0°-34°N, including the Islas Galápagos, Ecuador. Depth: 45-170 m (Bernard, 1983a). Occurrence in the Islas Galápagos doubtful (Finet, 1985). Galápagos distribution restated (Bernard, McKinnell & Jamieson, 1991). Occurrence in the Islas Galápagos doubtful (Finet, 1994b). Include Rocas Alijos, México, in distribution. Depth: 90 m (McLean & Coan, 1996). Distribution: Cortez Bank, California, to Rocas Alijos, Baja California Sur, México, and the Islas Galápagos (Coan, Valentich Scott & Bernard, 2000).

- 776 *Cardiomya californica* (Dall, 1886). Holotype and hinge figured (Bernard, 1974). Delete here. As a synonym. See *Cardiomya pectinata* (Carpenter, 1864) [782].

- 777 *Cardiomya costata* (Sowerby, 1834). Hinge figured (Bernard, 1974). Include off Esmeraldas, Ecuador, in distribution. Depth: 90 m (Cruz-P., 1977). Occurrence in the Islas Galápagos, Ecuador, doubtful (Finet, 1985). Include San Felipe, Baja California, México, in distribution (Gemmell, Myers & Hertz, 1987). Restrict distribution to south of central Baja California, México (Coan & Scott, 1997). Distribution to the Islas Galápagos, Ecuador, confirmed (Kaiser, 1997). Length: 11.6 mm (Hutsell, Hutsell & Pisor, 1999).

- 778 *Cardiomya didyma* (Hinds, 1843). Extend distribution north in the Golfo de California, México, to off Roca Consag (DuShane & Brennan, 1969). Neotype figured (Bernard, 1974).

- 779 *Cardiomya ecuadoriana* (Olsson, 1961). Hinge figured. Distribution: Isla Angel de la Guarda, Golfo de California, México, to Isla de la Plata, Ecuador. Depth: 55 to 146 m (Bernard, 1974). Extend distribution south to the Golfo de Guayaquil, Ecuador (Cruz-P., 1983).

- 780 *Cardiomya isolirata* F.R. Bernard, 1969. Holotype figured (Bernard, 1974). Delete here. As a synonym. See *Cardiomya pectinata* (Carpenter, 1964) [782].

- 781 *Cardiomya lanieri* (Strong & Hertlein, 1937). Hinge figured (Bernard, 1974). Occurrence in the

- Islas Galápagos, Ecuador, doubtful (Finet, 1985). Galápagos distribution restated (Bernard, McKinnell & Jamieson, 1991). Occurrence in the Islas Galápagos doubtful (Finet, 1994b). Shells identified by Bernard, *et al.* (1991) as *C. lanieri* are *Cardiomya costata* (Sowerby, 1834) (Kaiser, 1997).
- 782 *Cardiomya pectinata* (Carpenter, 1864). Holotype figured. Distribution (28°N-60°N) is north of the Panamic Province (Bernard, 1974). Synonyms: *Cardiomya californica* (Dall, 1886) [776]; *C. oldroydi* Dall in Oldroyd, 1924; *C. isolirata* F. R. Bernard, 1969 [780] (Coan & Scott, 1997). [This synonymy would make the distribution from British Columbia, Canada, to Panamá and the Islas Galápagos.] Holotype figured. Distribution: Prince William Sound, Alaska, to Acapulco, Guerrero, México, and the Islas Galápagos, Ecuador. Depth: 5-640 m (Valentich Scott, 1998). Holotype figured. Holotype of synonym, *Cardiomya oldroydi* figured. Extend distribution south to Isla de la Plata, Ecuador (Coan, Valentich Scott & Bernard, 2000).
- 783 *Cardiomya planetica* (Dall, 1908). Holotype figured. Delete. Distribution (28°N-60°N) is north of the Panamic Province (Bernard, 1974). Include Rocas Alijos, México, in distribution. Depth: 90 m (McLean & Coan, 1996). Synonym: *Cuspidaria pseustes* Dall, 1908. Distribution: Pribilof Islands, west to Unalaska Island, Aleutian Islands, east to Kodiak Island, Alaska, and south to the Golfo de Panamá, Panamá; the Islas Galápagos, Ecuador, and in Japan. Depth: 25 to 3000 m (Coan, Valentich Scott & Bernard, 2000).
- 784 *Cardiomya pseustes* (Dall, 1908). Length: 27 mm. *C. planetica* (Dall, 1908) as a synonym (Knudsen, 1970). Holotype figured. Delete *C. planetica* as a synonym (Bernard, 1974). Distribution: 7°N-49°N (Bernard, 1983a). Delete here. As a synonym. See *Cardiomya planetica* (Dall, 1908) [783].

Genus *Myonera* Dall, 1886

- 785 *Myonera garretti* Dall, 1908. Holotype figured. Synonym: *Myonera mexicana* Knudsen, 1970 (Bernard, 1974). Delete *M. mexicana* Knudsen, 1970, as a synonym (Bernard, 1983a). Synonym: *Myonera mexicana* Knudsen, 1970. Distribution: central Bering Sea, Alaska; Cascadia Abyssal Plain, Washington, to off Isla de Malpelo, Colombia (Coan, Valentich Scott & Bernard, 2000).

- *Myonera mexicana* Knudsen, 1970. Length: 21.8 mm. Valve interior and anatomy figured. Distribution: México (14°N). Depth: 3529 m (Knudsen, 1970). As a synonym of *M. garretti* Dall, 1908 [785] (Bernard, 1974). As a valid species with a distribution of 14°N-57°N and a depth of 1110 to 3557 m (Bernard, 1983a). Delete here. As a synonym. See *Myonera garretti* Dall, 1908 [785].

Genus *Plectodon* Carpenter, 1864

- 786 *Plectodon scaber* Carpenter, 1864. As *Leiomya* (*Plectodon*). Anatomy figured. Extend distribution north to Santa Barbara, California (Bernard, 1974). As genus *Plectodon* (Bernard, 1983a). Extend distribution south to the Golfo de Guayaquil, Ecuador (Cruz-P., 1983). Occurrence in the Islas Galápagos, Ecuador, doubtful (Finet, 1985). Include Isla del Coco, Costa Rica, in distribution. Islas Galápagos distribution restated (Bernard, McKinnell & Jamieson, 1991). Length: 24 mm (Hutsell, Hutsell & Pisor, 1999). Distribution: San Miguel Island, California, throughout the Golfo de California, México, to the Islas Galápagos, Ecuador, and Tumbes, Perú (Coan, Valentich Scott & Bernard, 2000).

Superfamily VERTICORDIOIDEA

Stoliczka, 1871

Family VERTICORDIIDAE

Subfamily VERTICORDIINAE

Stoliczka, 1871

Genus *Verticordia*

Sowerby, 1844, ex Wood MS

Subgenus *Verticordia*, s. s.

- 787 *Verticordia* (*V.*) *aequacostata* A. Howard, 1950. Delete here. Genus changed. See *Haliris*.
- 788 *Verticordia* (*V.*) *hancocki* F. R. Bernard, 1969. Holotype figured. As subgenus *Trigonulina*. Known only from the type locality (Bernard, 1974). As subgenus *Verticordia* (Bernard, 1983a). Delete here. Genus changed. see *Trigonulina*.
- 789 *Verticordia* (*V.*) *ornata* (d'Orbigny, 1846). As subgenus *Trigonulina*. Synonym: *Verticordia coelata* Verrill, 1884 (Bernard, 1974). As subgenus *Verticordia*. Synonym: *?Hippagus novemcostatus* A. Adams & Reeve, 1850 (Bernard, 1983a).

Occurrence in the Islas Galápagos, Ecuador, doubtful (Finet, 1985). Delete here. As a synonym. See *Trigonulina pacifica* [789]. Size: 5.0 mm (Hutsell, Hutsell & Pisor, 1999).

Subgenus *Haliris* Dall, 1886

- 790 *Verticordia* (*H.*) *spinosa* F. R. Bernard, 1969. Delete here. Genus changed. See *Haliris spinosa* [790].

Genus *Halicardia* Dall, 1895

As a subgenus of *Verticordia* (Bernard, 1974), and as a genus (Bernard, 1983a).

- 791 *Halicardia perplicata* (Dall, 1890). Anatomy figured. Add to distribution: Cabo San Lucas, Baja California Sur, México (Bernard, 1974). Extend distribution north to the Gulf of Alaska (Coan, Valentich Scott & Bernard, 2000).

Genus *Haliris* Dall, 1886

As a genus (Bernard, 1971), a subgenus (Bernard, 1974), and a genus (Bernard, 1983a; Coan & Scott, 1997).

- 787 *Haliris aequacostata* (Howard, 1950). Holotype figured. As *Verticordia* (*Trigonulina*). Add the Islas Galápagos, Ecuador, to distribution (Bernard, 1974). As *Haliris* by Bernard (1983a). Occurrence in the Islas Galápagos, Ecuador, doubtful (Finet, 1985). Galápagos distribution restated. Include Isla del Coco, Costa Rica, in distribution (Bernard, McKinnell & Jamieson, 1991).
- 790 *Haliris spinosa* F. R. Bernard, 1969. Holotype figured. Known only from the type locality (Bernard, 1974).

Genus *Trigonulina* d'Orbigny, 1846
Raised from subgenus (Jung, 1996).

- 788 *Trigonulina hancocki* (F. R. Bernard, 1969).
- 789 *Trigonulina pacifica* Jung, 1996. Include the Islas Galápagos, Ecuador, in distribution (Bernard, McKinnell & Jamieson, 1991). Occurrence in the Islas Galápagos doubtful (Finet, 1994b). Include Isla Socorro, Islas Revillagigedo, México, in distribution (Emerson, 1995). Synonym: *Verticordia ornata* (d'Orbigny, 1846), Keen, 1971 fig. 789 (part) [789]. Distribution: Monterey Bay,

California, to Punta Quepos, Puntarenas Province, Costa Rica, and including the Islas Revillagigedo, México. *V. ornata* is a West Indian species. (Jung, 1996). Distribution in the Islas Galápagos, Ecuador, confirmed (Kaiser, 1997).

Subfamily LYONSIELLINAE Dall, 1895

Genus *Lyonsiella* G. O. Sars, 1872

- 792 *Lyonsiella magnifica* Dall, 1913. Holotype figured. Known only from the type locality (Bernard, 1974).
- *Lyonsiella quaylei* F. R. Bernard, 1969. Holotype figured. Length: 9 mm. Distribution: British Columbia, Canada, to Cabo San Lucas, Baja California Sur, México. Depth: 350 to 1800 m (Coan, Valentich Scott & Bernard, 2000).

Genus *Dallicordia*

Scarlato & Starobogatov, 1993

- *Dallicordia alaskana* (Dall, 1895). Length: 24 mm. Distribution: 9°N-55°N. Depth: 1097 to 3570 m (Knudsen, 1970). As *Lyonsiella alaskana*. Holotype and anatomy figured. Distribution: Sitka, Alaska, to British Columbia, Canada; Santa Catalina Island, California (Bernard, 1974). As *Policordia alaskana*. Distribution 9°N-55°N (Bernard, 1983a). As *Dallicordia*. Delete. Distribution is north of the Panamic Province (Coan Valentich Scott & Bernard, 2000).

Superfamily POROMYOIDEA

Family POROMYIDAE

Synonym: *Perlaporomyinae* Scarlato & Starobogatov, 1983 (Coan, Valentich Scott & Bernard, 2000).

Genus *Poromya* Forbes, 1844
Subgenus *Cetoconcha* Dall, 1886

- 767 *Poromya* (*C.*) *perla* Dall, 1908. Delete here. Genus changed. See *Perlaporomya*.
- 768 *Poromya* (*C.*) *scapha* (Dall, 1902). Holotype figured. Known only from the type locality (Bernard, 1974).
- 769 *Poromya* (*C.*) *smithi* (Dall, 1908). Holotype figured. Distribution: Acapulco, Guerrero, México, to Patagonia, Argentina. Depth: 302 to 3439 m (Bernard, 1974). Distribution restricted to 15°N

(Bernard, 1983a).

Genus *Dermatomya* Dall, 1889
Raised from subgenus (Coan & Scott, 1997).

- 770 *Dermatomya equatorialis* (Dall, 1908). Holotype figured (Bernard, 1974). Delete here. As a synonym. See *Dermatomya mactroides* (Dall, 1889) [771].
- 771 *Dermatomya mactroides* (Dall, 1889). Holotype figured (Bernard, 1974). Depth: 120 to 1185 m (Coan & Scott, 1997). Synonym: *Poromya equatorialis* Dall, 1908. Distribution: Santa Cruz Island, California, to Chile. Depth: 120 to 1185 m

(Coan, Valentich Scott & Bernard, 2000).

Genus *Perlaporomya*
Scarlato & Starobogatov, 1983

- 767 *Perlaporomya perla* (Dall, 1908). Length: 13.8 mm. Anatomy figured. Distribution: California (32°N) to Ecuador (3°N). Depth: 1994 to 3500 m (Knudsen, 1970). As subgenus *Cetoconcha*. Holotype figured. Distribution: Golfo de Panamá to Ecuador (Bernard, 1974). As subgenus *Poromya*. Distribution: 3°N-24°N (Bernard, 1983a). Genus changed from *Poromya*. The type species for the new genus *Perlaporomya* is *Poromya perla* Dall, 1908 (Coan, Valentich Scott & Bernard, 2000).
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Panamic Province Molluscan Literature

Additions and Changes
From 1971 through 2000

II Polyplacophora

Carol Skoglund

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PANAMIC PROVINCE MOLLUSCAN LITERATURE - ADDITIONS AND CHANGES FROM 1971 THROUGH 2000

II. POLYPLACOPHORA

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The nomenclature for Panamic Province Polyplacophora taxa has undergone many changes since Spencer Thorpe's synopsis in *Sea Shells of Tropical West America* (Keen, 1971). New species have been named, taxonomic relationships redefined, and geographic distributions better understood. This paper consolidates this information so that references for each species can be easily found. It is a revision of Skoglund (1989).

Earlier papers in this series cover the Opisthobranchia (Skoglund, 1991a), Bivalvia (Skoglund, 1991b) and the Gastropoda (Skoglund, 1992).

This work, based on Keen (1971), places the northern limit of the Panamic Province at Bahía Magdalena, Baja California, México (25°N). Three recent works have suggested other northern limits. Bernard, McKinnell & Jamieson (1991) and Geiger (1999) use the more southern point of Cabo San Lucas, Baja California Sur (22.9° N), while Coan, Valentich Scott & Bernard consider the more northern Isla Cedros (28.2° N) as the northern cutoff point for the Province. Keen (1958) also used Isla Cedros, and it might well be the most reasonable choice, but the information herein uses Bahía Magdalena. All authors above were in agreement that the southern boundary of the Province should be set at 6°S in Perú.

There are many references to "Baja California," México, in the literature of the Province. The correct names of the two political divisions of the peninsula are

Baja California, the state north of the 28th parallel, and Baja California Sur, the state south of the 28th parallel. Previously published references to Baja California Norte are listed herein as Baja California.

Two papers have been published recently on the systematic arrangements for higher taxa within the Polyplacophora. Sirenko (1997a) uses anatomy and shell characteristics while Van Belle (1999) uses shell characteristics. The most recent (Van Belle, 1999) is used here, with the exception that only synonyms for species that occur within the Panamic Province are shown. For full synonymies of higher taxa see the Van Belle paper.

Species herein are listed alphabetically within a genus. Only those species with changes since Keen (1971) are included. They are shown with the numbers used by Keen for quick reference to a figure of the species. When Keen numbers appear within the text they are in brackets. Taxa which differ from those given in Keen are in bold type.

Taxonomic and distributional changes are listed in chronological order as published by each author, with the exception that those shown in Keen are not repeated. Where authors disagree, the reader is encouraged to look at the papers in the Literature Cited and make his/her own decision as to which version to use.

My thanks to Richard Van Belle and Douglas Eernisse who critically read the manuscript and offered many valuable suggestions. Jules and Carole Hertz proofread several drafts and offered much needed moral support. Stan Skoglund created a computer program for the index. Suzanne Parlett designed the cover and title page.

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Class POLYPLACOPHORA Gray, 1821
 Order NEOLORICATA Bergenhayn, 1955
 Suborder LEPIDOPLEURINA Thiele, 1909
 [Superfamily LEPIDOPLEUROIDEA
 Pilsbry, 1892 (Dell'Angelo & Palazzi, 1991)].
 Superfamily not included in Van Belle (1999).
 Family LEPTOCHITONIDAE Dall, 1889
 Subfamily LEPTOCHITONINAE Dall, 1889

Genus *Deshayesiella*

Dall, 1879, ex Carpenter MS

In family Protochitonidae Ashby, 1925 (Sirenko, 1997a). In Leptochitonidae by Kaas & Van Belle (1998). Delete here. As a synonym. See Genus *Leptochiton*.

- *Deshayesiella* sp. 2. Off southern California and in the Golfo de California, México. Depth: 45 to 455 m (Sirenko, 1997a). Delete here. Genus changed. See *Leptochiton*.

Genus *Ferreiraella* Sirenko, 1988

As family Ferreiraellidae Dell'Angelo & Palazzi, 1991, with synonyms Abysochitonidae Dell'Angelo & Palazzi, 1989; Xylochitonidae Gowlett-Homes & Jones, 1992 (Sirenko, 1997b). As family Leptochitonidae by Kaas & Van Belle (1998); Van Belle (1999).

- *Ferreiraella scrippsianus* (Ferreira, 1980). Length 20 mm. Distribution: off Baja California Sur, southwest of Cabo San Lucas, México. Depth: 2507 to 2891 m. Known only from type lot (Ferreira, 1980). A second specimen from the Eastern Pacific Rise [11°52'N, 103°51'W] was found living on a piece of submerged wood recovered from 2750 m depth (Alvin dive 2000) (D. Eernisse, pers. comm.). Holotype and radular tooth figured (Kaas & Van Belle, 1985a). Genus changed (Sirenko, 1988). Radula figured (Sirenko, 1997a). Include the Panamá Basin in distribution. Length: 25-27 mm. Depth: 3900-4000 m (Sirenko, 1997b).

Genus *Hanleyella* Sirenko, 1973

- *Hanleyella oldroydi* (Dall, 1919). Distribution: Alaska to San Quintín, Baja California, México (Kaas & Van Belle, 1985a). A single 4.5 mm specimen was taken off Isla Smith, Bahía de los Angeles, Baja California, México. Depth: 120 to

170 m (Skoglund, 1997b).

Genus *Lepidopleurus*

Risso, 1826, ex Leach MS

51. *Lepidopleurus abbreviatus* Dall, 1908. As a synonym of *Leptochiton alveolus* Lovén, 1846 (Ferreira, 1979b). Delete here. As a synonym. See *Leptochiton belknapi* Dall, 1876.
 52. *Lepidopleurus farallonis* Dall, 1902. As a synonym of *Leptochiton alveolus* Lovén, 1846 (Ferreira, 1979b). Delete here. As a synonym. See *Leptochiton belknapi* Dall, 1876.
 53. *Lepidopleurus halistreptus* Dall, 1902. As a synonym of *Leptochiton alveolus* Lovén, 1846 (Ferreira, 1979b). Delete here. As a synonym. See *Leptochiton belknapi* Dall, 1876.
 54. *Lepidopleurus incongruus* Dall, 1908. Delete here. Genus changed. See *Leptochiton*.
 55. *Lepidopleurus luridus* Dall, 1902. As a synonym of *Leptochiton alveolus* Lovén, 1846 (Ferreira, 1979b). Delete here. As a synonym. See *Leptochiton belknapi* Dall, 1876.
 56. *Lepidopleurus opacus* Dall, 1908. Holotype figured (Smith & Ferreira, 1977). Holotype selected by Smith & Ferreira (1977) is actually a lectotype (Kabat, 1996). As a synonym of *Leptochiton alveolus* Lovén, 1846 (Ferreira, 1979b). Delete here. As a synonym. See *Leptochiton belknapi* Dall, 1876.
- *Lepidopleurus scrippsianus* Ferreira, 1980. Delete here. Genus changed. See *Ferreiraella*.

Subgenus *Xiphiozona* Berry, 1919

- *Lepidopleurus* (X.) *heathi* Berry, 1919. Distribution: off Monterey and off Redondo Beach, California. Extend distribution to include Bahía de los Angeles, Baja California, México. Depth: 28 m (Hanselman, 1977). Delete here. As a synonym. See *Leptochiton nexus* Carpenter, 1864.

Genus *Leptochiton* Gray, 1847

Subgenus *Leptochiton* s. s.

Synonym: *Deshayesiella* Dall, 1879, ex Carpenter MS (Van Belle, 1999).

- *Leptochiton* (L.) *albamarlensis* Smith & Ferreira, 1977. Length 9.8 mm. Distribution: Isla Isabela, Islas Galápagos, Ecuador. Depth: 20 m. Known

- only from two specimens in the type lot (Smith & Ferreira, 1977).
- *Leptochiton (L.) alveolus* (Lovén, 1846, ex M. Sars MS). Synonyms: *Leptochiton belknapi* Dall, 1879 (holotype figured); *L. benthus* Haddon, 1886; *Lepidopleurus mesogonus* Dall, 1902 (holotype figured); *L. halistreptus* Dall, 1902 (holotype figured) [53]; *L. luridus* Dall, 1902 (holotype figured) [55]; *L. farallonis* Dall, 1902 (holotype figured) [52]; *L. giganteus* Nierstrasz, 1905 (lectotype figured); *L. simplex* Nierstrasz, 1905 (lectotype figured); *L. opacus* Dall, 1908 [56]; *L. halistreptus abbreviatus* Dall, 1908 [51]; *Leptochiton japonicus* Thiele, 1909; *Lepidopleurus japonicus aequivalvus* Bergenhayn, 1933; *L. aequispinnus* Bergenhayn, 1933. Length to 40 mm. Distribution: North Atlantic; Sea of Japan; Philippine Islands; Bering Sea; in the eastern Pacific from 58°08'N to off Acapulco, México, the Bahía de Panamá; near the Islas Galápagos; off the Peruvian coast. Depth: 164 to 3962 m (Ferreira, 1979b). Include Izu-Schichito Islands, Japan in distribution. Depth: 140 to 180 m. *Leptochiton belknapi* Dall, 1878, as a separate species (Wu & Okutani, 1984). *Leptochiton belknapi* as a synonym of *L. alveolus*. Add synonym: *Parachiton opiparus* Iredale & Hull, 1925. Add to distribution: in NE Asia: Kurile Island; Okhotsk Sea; Sea of Japan south to Korea. Central Pacific: Philippines and Indonesian Archipelago, south to Australia. Indian Ocean: Sri Lanka; Kerguelen Island (Kaas & Van Belle, 1985a). Delete. Distribution restricted to the Atlantic Ocean (Kaas & Van Belle, 1987).
- *Leptochiton (L.) americanus* Kaas & Van Belle, 1985. Synonym: *Leptochiton rissoi* Ferreira auctt., non *Lepidopleurus rissoi* Nierstrasz, 1905. Length to 15 mm. Distribution: Oregon to southwest of Iquique, Chile. Depth: 400 to 1400 m (Kaas & Van Belle, 1985a).
- *Leptochiton (L.) belknapi* Dall, 1878. Synonyms: *Leptochiton benthus* Haddon, 1886; *Lepidopleurus similis* E. A. Smith, 1894; *L. mesogonus* Dall, 1902; *L. halistreptus* Dall, 1902 [53]; *L. luridus* Dall, 1902 [55]; *L. farallonis* Dall, 1902 [52]; *L. giganteus* Nierstrasz, 1905; *L. simplex* Nierstrasz, 1905; *L. halistreptus abbreviatus* Dall, 1908; *L. opacus* Dall, 1908 [56]; *L. japonicus* Thiele, 1909; *Parachiton opiparus* Iredale & Hull, 1925; *Lepidopleurus japonicus aequivalvus* Bergenhayn, 1933; *L. aequispinnus* Bergenhayn, 1933. Length: 32 mm. Radular tooth figured. Distribution: widespread in the Pacific and Indian Oceans between 70°N and 50°S. Depth: 160 to 4140 m (Kaas & Van Belle, 1987). Delete as synonyms: *Lepidopleurus japonicus* Thiele, 1909; *L. japonicus aequivalvus* Bergenhayn, 1933; *L. aequispinnus* Bergenhayn, 1933 (Saito, 1997).
54. *Leptochiton (L.) incongruus* (Dall, 1908). Genus changed. Holotype figured. Length: 12 mm. Distribution: Golfo de Tehuantepec, México; Golfo de Panamá. Depth: 589 to 3612 m (Ferreira, 1979b). Holotype figured (Kaas & Van Belle, 1985a). Shell figured as a holotype is actually a lectotype (Kabat, 1996).
- *Leptochiton (L.) nexus* Carpenter, 1864. Extend distribution to Bahía de los Angeles, Baja California, México (Hanselman, 1977). Synonyms: *Lepidopleurus (Xiphiozona) heathi* Berry, 1919; *L. (Leptochiton) ambustus* Dall, 1919; *L. (Leptochiton) lycurgus* Dall, 1919. Length to 25 mm. Distribution: Alaska to Punta Abreojos, Baja California Sur; Bahía de los Angeles, Baja California, México. Depth: 12 to 90 m (Ferreira, 1979b). Depth to 144 m (Kaas & Van Belle, 1985a).
1. *Leptochiton (L.) rugatus* (Pilsbry, 1892). Add synonyms: *Leptochiton cancellatus* Dall, 1879, non Sowerby II, 1840; *L. internexus* Pilsbry, 1892, ex Carpenter MS; *Lepidopleurus assimilis* Thiele, 1909; *L. alascensis* Thiele, 1909. Holotype figured. Distribution: Alaska to Bahía Magdalena, Baja California Sur, and throughout most of the Golfo de California, México. Also reported from off the coasts of Russia, the Sea of Japan, Sea of Okhotsk and the Bering Sea (Ferreira, 1979b). Radular teeth figured. Depth to 453 m (Kaas & Van Belle, 1985a). Delete *Leptochiton assimilis* as a synonym (Sirenko, 1997a; Saito & Tsuchida, 1998).
- *Leptochiton (L.) sp.* As *Deshayesiella* sp. 2. Off southern California and in the Golfo de California, México. Depth: 45 to 455 m (Sirenko, 1997a). Genus changed (Van Belle, 1999).
- Genus *Oldroydia* Dall, 1894
- As family Protochitonidae Ashby, 1925 (Sirenko, 1997a). As Leptochitonidae by Kaas & Van Belle (1998).
- *Oldroydia percrassa* (Dall, 1894). Synonyms: *Hanleya hanleyi* Oldroyd auctt., non Bean in

Thorpe, 1844; *Hanleya spicata* Berry, 1919. Length to 28 mm. Distribution: Monterey Bay, California, to Isla San Benito, Baja California, and Canal de Salsipuedes, Golfo de California, México. Reported from the Sea of Japan. Depth: intertidal zone to 457 m (Ferreira, 1979b). Delete *Hanleya hanleyi* Oldroyd *auctt.*, *non* Bean in Thorpe, 1844, as synonym, and delete the Sea of Japan from the distribution. Depth: intertidal zone to 730 m (Kaas & Van Belle, 1985a). Include Rocas Alijos, México, in distribution. Depth: 90 m (McLean & Coan, 1996).

Suborder ISCHNOCHITONINA

Bergenhayn, 1930

Family ISCHNOCHITONIDAE

Subfamily ISCHNOCHITONINAE

Genus *Ischnochiton* Gray, 1847

Synonym: *Radsiella* Pilsbry, 1892, *non* Thiele, 1893 (Van Belle, 1999).

Subgenus *Ischnochiton* s. s.

- *Ischnochiton* (*I.*) *carolianus* Ferreira, 1984. Length: 8.5 mm. Off Bahía San Carlos, Sonora, and Bahía de los Angeles, Baja California, México. Depth: 61 to 182 m (Ferreira, 1984). Add subgenus. Paratype and radular tooth figured (Kaas & Van Belle, 1990). Extend distribution south along the coast of Baja California to off Isla Danzante, Golfo de California, México (Skoglund, 1997b). Extend distribution south to off Punta Piaxtla, Sinaloa, México (Hendrickx & Toledano Granados, 1994).
- *Ischnochiton* (*I.*) *chaceorum* Kaas & Van Belle, 1990. Length: 7 mm. Known only from the type locality at Punta [Puerto] Peñasco, Sonora, México (Kaas & Van Belle, 1990).
- 15. *Ischnochiton* (*I.*) *dispar* (Sowerby in Broderip & Sowerby, 1832). Genus changed. Lectotype of synonym, *Ischnochiton ophioderma* Dall, 1908, selected (Smith, 1977). Add synonyms: *Gymnoplax anaglyptus* de Rochebrune, 1884; *Lepidopleurus fuscopunctatus* Leloup, 1961, *ex* Carpenter MS (*nom. nud.*) (Kaas & Van Belle, 1980). Add subgenus. Radular tooth figured. Distribution: Nicaragua to Panamá, intertidal zone (Kaas & Van Belle, 1990). Extend distribution south to Salinas, Ecuador (Skoglund, 1997b).
- *Ischnochiton* (*I.*) *eucosmius* Dall, 1919. Genus changed. Valid species. Lectotype selected (Smith, 1977). Subgenus *Rhodoplax* added (Smith & Ferreira, 1977). Delete here. As a synonym. See *Ischnochiton* (*I.*) *guatemalensis* Thiele, 1909 [16].
- 16. *Ischnochiton* (*I.*) *guatemalensis* Thiele, 1909. Add subgenus. Synonym: *Ischnochiton eucosmius* Dall, 1919. Distribution: Bahía Magdalena, Baja California Sur, to the head of the Golfo de California, México, and south to Costa Rica. Depth: intertidal to shallow subtidal zone (Kaas & Van Belle, 1990).
- *Ischnochiton* (*I.*) *macleani* Ferreira, 1978. Length: 5.0 mm. Tagus Cove, Isla Albemarle, Islas Galápagos. Depth: 55 m. Known only from the Islas Galápagos (Ferreira, 1978a). Add subgenus. Holotype and radular teeth figured. Length: 6.2 mm. Extend depth to 128 m (Kaas & Van Belle, 1990).
- 17. *Ischnochiton* (*I.*) *muscarius* (Reeve, 1847). Distribution: Guaymas, Sonora, to Salina Cruz, Oaxaca, and Isla Socorro, Islas Revillagigedo, México (Ferreira, 1983b). Add subgenus (Kaas & Van Belle, 1990).
- 19. *Ischnochiton* (*I.*) *petaloides* (Gould, 1846). Genus changed, subgenus *Rhodoplax* added. Delete as a synonym: *Stenoplax histrio* Berry, 1945. Length: 11 mm. Distribution: outer coast of Baja California from Punta Abreojos south to Cabo San Lucas, throughout the Golfo de California, México to Isla Lobos de Afuera, Perú, including the Islas Galápagos; Hawaiian Islands (Smith & Ferreira, 1977). As a synonym of *Ischnochiton rugulatus* (Sowerby in Broderip & Sowerby, 1832) [20] (Ferreira, 1983b). Delete. Genus changed. *Stenoplax petaloides* (Gould, 1846) is a valid species endemic to the Hawaiian Islands (Kaas & Van Belle, 1990).
- *Ischnochiton* (*I.*) *rodolithophilus* Clark, 2000, *ex* Putman MS. Girdle scales and radula figured. Length: 6 mm. Distribution: Bahía Concepción south to Canal de San Lorenzo, Baja California Sur, México (Clark, 2000).
- 20. *Ischnochiton* (*I.*) *rugulatus* (Sowerby in Broderip & Sowerby, 1832). Lectotype figured. Synonyms: *Chiton catenulatus* Sowerby in Broderip & Sowerby, 1832; *C. petaloides* Gould, 1846 [19]; *Ischnochiton mariposa* Dall, 1919; *Stenoplax histrio* Berry, 1945. Delete as synonyms: *Chiton roseus* Sowerby in Broderip & Sowerby, *non* de Blainville, 1825; *C. pallidulus* Reeve, 1847; *Ischnochiton boogii* Haddon, 1886; *I. aethonus*

- Dall, 1919; *Stenoplax isoglypta* Berry, 1956. Lectotype figured. Distribution: Punta Malarrimo, Baja California Sur, throughout the Golfo de California, and Isla Socorro, Islas Revillagigedo, México, and south to Perú, including the Islas Galápagos, Ecuador (Ferreira, 1983b). *Radsiella rugulata* Thorpe in Keen *auctt.*, non Sowerby in Broderip & Sowerby, 1832 [20], as a synonym of *Stenoplax boogii* (Haddon, 1886) (Ferreira, 1985b). Delete as synonyms: *Chiton petaloides* Gould, 1846, and *C. mariposa* Dall, 1919. Delete here. Genus changed. See *Stenoplax*.
- *Ischnochiton (I.) skoglundii* Ferreira, 1986. Length: 4.8 mm. Distribution: Playa Novillero, Nayarit, México. Depth: 5 to 15 m. Known only from the type locality (Ferreira, 1986). Delete here. Genus changed. See *Lepidozona*.
18. *Ischnochiton (I.)* sp. Thorpe, MS. Genus changed from *Radsiella* by Smith (1977).
21. *Ischnochiton (I.) tenuisculptus* (Carpenter, 1864). Genus changed (Van Belle, 1983). Add subgenus. Synonym: *Chiton dispar* C. B. Adams *auctt.* [pars], non Sowerby in Broderip & Sowerby, 1832. Extend distribution south to Perú (Kaas & Van Belle, 1990).
- *Ischnochiton tomhalei* Clark, 2000. Girdle scales and radula figured. Length: 4 mm. Distribution: Punta Chivato to Canal de San Lorenzo, Baja California Sur, México (Clark, 2000).
22. *Ischnochiton (I.) tridentatus* Pilsbry, 1893. Genus changed (Smith, 1977). Add subgenus. Extend distribution south to Mazatlán, Sinaloa, México. Depth: intertidal to 30 m (Kaas & Van Belle, 1990).
- *Ischnochiton (I.) victoria* Ferreira, 1987. Length: 3.5 mm. Known only from Isla del Coco, Costa Rica (Ferreira, 1987). Add subgenus. Holotype figured (Kaas & Van Belle, 1994).
- Subgenus *Haploplax* Pilsbry, 1894
- *Ischnochiton (H.) pusio* (Sowerby in Broderip & Sowerby, 1832). Synonyms: *Chiton concinnus* Sowerby, 1840; *Ischnochiton varians* Plate, 1899; *Radsiella punctulatissima* Thiele *auctt.*, non Sowerby in Broderip & Sowerby, 1832. Length: 21 mm. Lectotype figured. Distribution: Tumbes, Perú to Tierra del Fuego and the Juan Fernandez Islands. Depth: intertidal zone to 90 m (Kaas & Van Belle, 1994).
- Genus *Radsiella* Pilsbry, 1892
- Delete here. As a synonym. See genus *Ischnochiton*.
15. *Radsiella dispar* (Sowerby in Broderip & Sowerby, 1832). Delete here. Genus changed. See *Ischnochiton*.
16. *Radsiella guatemalensis* (Thiele, 1909). Delete here. Genus changed. See *Ischnochiton*.
17. *Radsiella muscaria* (Reeve, 1847). Delete here. Genus changed. See *Ischnochiton*.
18. *Radsiella* . . . Thorpe MS. Delete here. Genus changed. See *Ischnochiton*.
19. *Radsiella petaloides* (Gould, 1846). Delete here. Genus changed. See *Ischnochiton*.
20. *Radsiella rugulata* (Sowerby in Broderip & Sowerby, 1832). Delete here. Genus changed. See *Ischnochiton*.
21. *Radsiella tenuisculpta* (Carpenter, 1864). Delete here. Genus changed. See *Ischnochiton*.
22. *Radsiella tridentata* (Pilsbry, 1893). Delete here. Genus changed. See *Ischnochiton*.
- Genus *Stenoplax* Dall, 1879,
ex Carpenter MS
Subgenus *Stenoplax s. s.*
- *Stenoplax (S.) boogii* (Haddon, 1886). Holotype of synonym, *S. isoglypta*, figured (C. Hertz, 1984). Synonyms: *Chiton roseus* Sowerby in Broderip & Sowerby, 1832, non de Blainville, 1825; *Ischnochiton (Stenoplax) bermudensis* Dall & Bartsch, 1911; *I. (Stenoplax) aethonus* Dall, 1919; *Stenoplax isoglypta* Berry, 1956; *Radsiella rugulata* Thorpe in Keen *auctt.*, non Sowerby in Broderip & Sowerby, 1832 [20]. Length: 10 mm. Distribution: Bahía de los Angeles, Baja California, México, to Perú. Verified records from Cabo San Lucas, Baja California Sur, México, to Bahía Herradura, Panamá. Depth: 0 to 40 m (Ferreira, 1985b). Add Isla del Coco, Costa Rica, to distribution (Ferreira, 1987). Add subgenus. Add synonym: *Ischnochiton dubium* Nowell-Usticke, 1969. Delete as synonym: *Radsiella rugulata* Thorpe in Keen *auctt.*, non Sowerby in Broderip & Sowerby, 1832. Extend distribution south to Isla Isabel, Perú, and add the Caribbean to distribution (Kaas & Van Belle, 1987). Distribution to Bahía de Los Angeles, Baja California, México, confirmed (Skoglund, 1997b).
- *Stenoplax (S.) circumscissa* Berry, 1956. Length to 26 mm. Extend distribution into the Golfo de

- California from Isla Partida to Isla Espíritu Santo and Pichilique, Baja California Sur, México. Depth: 1 to 15 m (Ferreira, 1972). Extend distribution to Isla Mediol, 9.7 km southwest of Guaymas, Sonora, México (Hanselman, 1973). As a synonym of *Stenoplax (S.) corrugata* Pilsbry, 1892 (Ferreira, 1983b). Holotype figured (C. Hertz, 1984). As a valid species. Length: 20 mm. Distribution: Laguna de Scammon to Bahía Magdalena on the Pacific side of Baja California and from Isla Monserrate to La Paz on the Golfo side; near Guaymas, Sonora, on the Mexican mainland (Kaas & Van Belle, 1987). Extend distribution north to Bahía de los Angeles, Baja California, México, both intertidal and dredged from 20 to 40 m (Skoglund, 1997b).
- *Stenoplax (S.) corrugata* Pilsbry, 1892, ex Carpenter MS. Synonyms: *Ischnochiton biarcuatus* Dall, 1903; *Stenoplax circumsenta* Berry, 1956. Length: 24 mm. Santa Cruz Island, California, to Bahía Magdalena, Baja California Sur, and from Isla Danzante to Pichilique on the western side of the Golfo de California and off Guaymas, Sonora, México. Depth: 3 to 103 m (Ferreira, 1983b). Add subgenus. Delete *S. circumsenta* Berry, 1956, as a synonym. Limit distribution from Santa Cruz Island, California, to Islas Guadalupe and San Martín, Baja California, and Isla Clarión, Islas Revillagigedo, México (Kaas & Van Belle, 1987). Include Rocas Alijos, México, in distribution. Depth: 20 to 50 m (McLean & Coan, 1996).
24. *Stenoplax (S.) limaciformis* (Sowerby in Broderip & Sowerby, 1832). Add synonyms: *Chiton purpurascens* Adams, 1845; *Onitochiton* [sic] *pruinusum* de Rochebrune, 1884, non *Chiton pruinusum* Gould, 1856; *Ischnochiton multicostatus* Dall auctt., non C. B. Adams, 1845; *Ischnochiton (Stenoplax) floridanus* Pilsbry, 1892; *Chiton angustus* Clessin, 1904. Distribution: Isla Tiburón, Golfo de California, to México, Punta Ancón, Ecuador; Caribbean (Ferreira, 1985b). Delete as synonyms all above except *Chiton angustus* Clessin, 1904, and limit the distribution to the eastern Pacific from Puertecitos, Baja California, and La Libertad, México, south to Perú (Bullock, 1985). Radular tooth figured. Distribution: Golfo de California, México, to Isla Lobos de Afuera, Perú. Depth: intertidal to shallow subtidal zones (Kaas & Van Belle, 1987).
- *Stenoplax (S.) mariposa* (Dall, 1919, ex Bartsch MS). Synonym: *Stenoplax histrio* Berry, 1945. As a valid species. Length to 16 mm. Distribution: Punta Malarrimo, on the Pacific coast of Baja California Sur, throughout the Golfo de California and south to Cabo Corrientes, Jalisco, and including the Islas Revillagigedo, México. Other records are doubtful. Depth: low intertidal to shallow subtidal zones (Kaas & Van Belle, 1990).
20. *Stenoplax (S.) rugulata* (Sowerby in Broderip & Sowerby, 1832). Genus changed from *Ischnochiton*. Synonyms: *Chiton catenulatus* Sowerby in Broderip & Sowerby, 1832; *Chiton inconspicuus* Sowerby, 1840 (*nom. nud.*). Distribution: Ecuador, including the Islas Galápagos; Perú. Depth: intertidal to shallow subtidal zones (Kaas & Van Belle, 1990).
- Subgenus *Stenoradsia* Dall, 1879,
ex Carpenter MS
- *Stenoplax (S.) conspicua* (Pilsbry, 1892, ex Carpenter MS). Synonyms: *Ischnochiton sarcosus* Dall, 1902; *I. conspicuus* var. *solida* Pilsbry, 1892, ex Carpenter MS (Kaas & Van Belle, 1980). Add subgenus. Delete. Distribution is north of the Panamic Province (Kaas & Van Belle, 1987). Include Rocas Alijos, México, in distribution. Depth: 20 to 50 m (McLean & Coan, 1996).
25. *Stenoplax (S.) magdalenensis* (Hinds, 1845). Add subgenus. Length to 100 mm. Extend distribution on the western coast of Baja California from Bahía San Quintín to Cabo San Lucas and in the Golfo de California from Puerto Peñasco, Sonora, and Bahía Concepción, Baja California Sur, México, intertidal (Kaas & Van Belle, 1987).
23. *Stenoplax (S.) sonorana* Berry, 1956. Holotype figured (C. Hertz, 1984). As a valid species. Add subgenus. Length to 65 mm. Distribution: northern half of the Golfo de California, México (Kaas & Van Belle, 1987).
- Genus *Lepidozона* Pilsbry, 1892
Subgenus *Lepidozона s. s.*
36. *Lepidozона (L.) allynsmithi* Ferreira, 1974. Length: 20 mm. Distribution: Bahía Concepción, to Cabo Pulmo, Baja California Sur, México; Bahía de Huevos, Costa Rica. Depth: 2 to 20 m. May be the species left unnamed in Keen, 1971, as "36 *Lepidozона* ... Thorpe, MS" (Ferreira, 1974). Add

- subgenus. Radular teeth figured (Kaas & Van Belle, 1987).
- *Lepidozona (L.) clarionensis* Ferreira, 1983. Length: 15 mm. Endemic to the Islas Revillagigedo, México. Depth: 8 to 25 m (Ferreira, 1983b). Add subgenus. Radular teeth figured (Kaas & Van Belle, 1987). Paratype figured (Sliker, 2000).
31. *Lepidozona (L.) clathrata* (Reeve, 1847). Extend distribution south to Manzanillo, Colima, México, and depth to 10 m (Ferreira, 1974). Add synonym: *Ischnochiton subclathratus* Pilsbry, 1892. Add subgenus (Kaas & Van Belle, 1987). Extend distribution to Bahía San Bartolomé on the outer coast of Baja California Sur, México (Luke, 1995).
32. *Lepidozona (L.) crockeri* (Willett in Hertlein & Strong, 1951). Extend distribution north to near Isla Monserrate, Golfo de California, México. Depth: 15 m (Ferreira, 1974). Holotype and radular teeth figured. Add subgenus. Depth: lower tide level to 109 m (Kaas & Van Belle, 1987). Extend distribution north to Bahía de los Angeles, Baja California, México. Depth: 60 to 183 m (Skoglund, 1997b). Holotype figured (Sliker, 2000).
33. *Lepidozona (L.) elenensis* (Sowerby in Broderip & Sowerby, 1832). Delete here. Genus changed. See *Callistochiton*.
34. *Lepidozona (L.) flavida* (Thiele, 1909). As a synonym of *Callistochiton elenensis* (Sowerby in Broderip & Sowerby, 1832) (Ferreira, 1979a). Delete here. As a synonym. See *Callistochiton pulchrior* Pilsbry, 1893.
35. *Lepidozona (L.) formosa* Ferreira, 1974. Length: 28 mm. Distribution: Isla Blanca (ca. 3 km south of Puerto Escondido, Baja California Sur); Isla San Francisco; Isla Cerralvo, Golfo de California, México. Depth: 15 to 20 m. Known from only three specimens. May be the unnamed species in Keen, 1971, as "35. *Lepidozona* . . . Thorpe, MS" (Ferreira, 1974). Add subgenus. Holotype figured (Kaas & Van Belle, 1987). Extend distribution north to Bahía de los Angeles, Baja California, and south to Manzanillo, Colima, México (Skoglund, 1997b). Holotype figured (Sliker, 2000).
- *Lepidozona (L.) laurae* Ferreira, 1985. Length: 14.5 mm. Distribution: off Punta San Antonio, north of Guaymas, Sonora, México. Depth: 60 to 100 m (Ferreira, 1985a). Add subgenus. Holotype and radular teeth figured (Kaas & Van Belle, 1987). Extend distribution across the Golfo de California to Bahía de los Angeles, Baja California, México. Depth: 120 to 183 m (Skoglund, 1997b).
- *Lepidozona (L.) macleianiana* Ferreira, 1985. Length: 20 mm. Distribution: off Isla San Pedro Nolasco, Golfo de California, México. Depth: 100 to 104 m. Known only from type locality (Ferreira, 1985a). Delete here. As a synonym. See *Lepidozona (L.) rothi* Ferreira, 1983.
- *Lepidozona (L.) mertensii* (von Middendorff, 1847). Neotype designated and figured. Distribution: Alaska to Sacramento Reef, Baja California, México. Depth: intertidal zone to 100 m (Ferreira, 1978b). Extend distribution south to Rocas Alijos, México. Depth: 20 to 50 m (McLean & Coan, 1996).
- *Lepidozona (L.) pectinulata* (Pilsbry, 1893, ex Carpenter MS). Synonyms: *Ischnochiton (Lepidopleurus) pectinatus* Carpenter in Pilsbry, 1893; *I. bryanti* Dall, 1919; *I. brunneus* Dall, 1919; *I. (Lepidozona) californiensis* Berry, 1931; *I. clathratus auctt.* (pars) non (Reeve, 1847). Lectotype selected. Length to 40 mm. Distribution: San Luis Obispo County, California, to Bahía Magdalena, Baja California Sur, México. Depth: intertidal zone to about 20 m (Ferreira, 1978b). Radular teeth figured (Kaas & Van Belle, 1987). Extend distribution into the Golfo de California at Bahía de los Angeles, Baja California, México. Depth: 20 to 40 m (Skoglund, 1997b).
- *Lepidozona (L.) retiporosa* (Carpenter, 1864). Length: 12 mm. Distribution: Alaska to off the southern tip of Baja California, México. Depth: 137 to 453 m (Kues, 1974). Genus changed from *Ischnochiton* (Smith, 1977). Synonyms: *Leptochiton punctatus* Whiteaves, 1887; *Ischnochiton venezius* Dall, 1919; *I. (Ischnochiton) aureotinctus* Pilsbry, 1892, ex Carpenter MS. Extend depth to 1463 m (Ferreira 1978b). Add subgenus. Add synonym: *?Ischnochiton subexpressus* Palmer, 1945, ex Carpenter MS (*nom. nud.*). Radular teeth figured (Kaas & Van Belle, 1987).
- *Lepidozona (L.) rothi* Ferreira, 1983. Length to 15 mm. Distribution: Isla Clarión, Islas Revillagigedo, México; Isla Nuez, Isla del Coco, Costa Rica. Depth: 55 to 110 m (Ferreira, 1983b). Add synonym: *Lepidozona macleianiana* Ferreira, 1985. Holotype and radular teeth figured. Length: 20 mm. Extend distribution north to off Isla San Pedro Nolasco, Golfo de California, México. Depth: 55 to 110 m (Kaas & Van Belle, 1987).

37. *Lepidozona (L.) serrata* (Carpenter, 1864). Extend distribution north to Monterey Bay, California, and south to Mazatlán, Sinaloa, México, and depth to 10 m (Ferreira, 1974). Add subgenus. Radular teeth figured (Kaas & Van Belle, 1987). Extend distribution south to Bahía Tenacatita, Jalisco, México (Skoglund, 1997b).
- *Lepidozona (L.) sirenkoi* Kaas & Van Belle, 1990. Length: 9 mm. Known only from the type locality at Punta [Puerto] Peñasco, Sonora, México. Depth: probably intertidal zone (Kaas & Van Belle, 1990). Paratype figured (Sliker, 2000).
- *Lepidozona (L.) skoglundii* (Ferreira, 1986). Length: 4.8 mm. Distribution: Playa Novillero, Nayarit, México. Depth: 5 to 15 m. Known only from the type locality (Ferreira, 1986). Genus changed from *Ischnochiton*. Holotype and radular teeth figured (Kaas & Van Belle, 1990). Extend distribution north to off Estero Morua, Puerto Peñasco, Sonora, México. Depth: 6 to 9 m (Koch, 1991).
- *Lepidozona (L.) stohleri* Ferreira, 1985. Length: 26 mm. Distribution: Bahía de los Angeles, Baja California; Islas Angel de la Guarda and Danzante, Golfo de California, México. Depth: 12 to 60 m (Ferreira, 1985a). Add subgenus. Holotype and radular teeth figured (Kaas & Van Belle, 1987). Paratype figured (Sliker, 2000).
38. *Lepidozona (L.) subtilis* Berry, 1956. Add Bahía San Francisquito, Baja California, to distribution (Ferreira, 1984). Holotypes of *Leidozona subtilis* and synonym, *L. pella* Berry, 1963, figured (C. Hertz, 1984). Add subgenus. Radular teeth figured. Depth: low intertidal to shallow subtidal zone (Kaas & Van Belle, 1987).
- *Lepidozona (L.) tenuicostata* Kaas & Van Belle, 1990. Length to 17 mm. Known only from the type locality at Punta [Puerto] Peñasco, Sonora, México. Depth: probably intertidal (Kaas & Van Belle, 1990). Paratype figured (Sliker, 2000).
- Subfamily **CALLISTOPLACINAE**
Pilsbry, 1893
- Genus *Callistochiton* Dall, 1879,
ex Carpenter MS
- *Callistochiton carmenae* A. G. Smith & Ferreira, 1977. Synonym: *Callistochiton shuttleworthianus* Pilsbry, 1893. Length: 8.7 mm. Known only from the Islas Galápagos (A. G. Smith & Ferreira, 1977). Delete here. As a synonym. See *Callistochiton pulchellus* (Gray, 1828) [30].
26. *Callistochiton colimensis* (A.G. Smith, 1961). Synonym: *Ischnochiton lowei* Pilsbry in Pilsbry & Lowe, 1932 (*nom. nud.*). Extend distribution north to off San José del Cabo, Baja California Sur, México, and south to Islas las Perlas, Panamá. Depth to 340 m (Ferreira, 1979a). Holotype and radular tooth figured (Kaas & Van Belle, 1994).
27. *Callistochiton duncanus* Dall, 1919. Delete here. Genus changed. See *Calloplax*.
33. *Callistochiton elenensis* (Sowerby in Broderip & Sowerby, 1832). Genus changed. Add synonym: *Callistochiton flavidus* Thiele, 1909. Delete synonym *Lepidopleurus clathratus* Carpenter, 1857, non Reeve, 1847. Extend distribution south to Punta Ancón, Ecuador, and depth to 90 m (Ferreira, 1979a). Delete all above. Ferreira (1979a) species was not *C. elenensis* but *Callistochiton expressus* (Carpenter, 1865). Synonyms: *Callistochiton infortunatus* Pilsbry, 1893 [29]; *C. gabbi* Pilsbry, 1893 [28]; *C. leidensis* Nierstrasz, 1905. Length: 21 mm. Possible syntype and radular tooth figured. Distribution: Golfo de California, México, to Punta Ancón, Ecuador. Depth: low intertidal zone to 73 m (Kaas & Van Belle, 1994). Include San Felipe, Baja California, México, in distribution (as *C. infortunatus*) (Luke, 1995).
- *Callistochiton expressus* (Carpenter, 1865). Synonyms: *Chiton pulchellus* C. B. Adams, 1852 (*pars*), non Gray, 1828; *Callistochiton elenensis* Ferreira *auctt.*, non Sowerby in Broderip & Sowerby, 1832. Holotype and radular tooth figured. Length: 12 mm. Distribution: Sinaloa, México, to Punta Ancón, Ecuador. Depth: low intertidal to subtidal zone (Kaas & Van Belle, 1994).
28. *Callistochiton gabbi* Pilsbry, 1893. Add synonyms: *Callistochiton infortunatus* Pilsbry, 1893 [29]; *C. leidensis* Nierstrasz, 1905; *C. decoratus infortunatus* Dall, 1921. Holotype figured. Distribution: throughout the Golfo de California, México, to Ecuador. Depth low intertidal to 73 m (Ferreira, 1979a). Delete here. As a synonym. See *Callistochiton elenensis* (Sowerby in Broderip & Sowerby, 1832) [33].
29. *Callistochiton infortunatus* Pilsbry, 1893. As a synonym of *C. gabbi* Pilsbry, 1893 (Ferreira, 1979a). Delete here. As a synonym. See

Callistochiton elenensis (Sowerby in Broderip & Sowerby, 1832) [33].

- *Callistochiton palmulatus* Dall, 1879, ex Carpenter MS. Synonyms: *Callistochiton palmulatus mirabilis* Pilsbry, 1893; *C. acinatus* Dall, 1919; *C. celestus* Dall, 1919; *C. connellyi* Willett, 1937. Distribution: Mendocino County, California, to Punta San Pablo, Baja California, México. Depth: intertidal zone to 82 m (Ferreira, 1979a). Include Bahía de los Angeles, Baja California, México, in distribution. Depth: 60 to 90 m (Skoglund, 1997a).

- *Callistochiton periconis* Dall, 1908. Add synonyms: *Callistochiton fisheri* Dall, 1919; *Chiton pulchellus* Gray auctt., non Gray, 1828. Delete *Chiton bicostatus* d'Orbigny, 1841, as synonym. Length: 15 mm. Distribution: near San Juan del Sur, Nicaragua, to Punta Cruces, Colombia. Depth: intertidal to 30 m (Ferreira, 1979a). Delete here. As a synonym. See *Callistochiton pulchrior* Pilsbry, 1893, ex Carpenter MS.

30. *Callistochiton pulchellus* (Gray, 1828). Synonyms: *Chiton bicostatus* d'Orbigny, 1841; *Callistochiton shuttleworthianus* Bergenhayn auctt., non Pilsbry, 1893; *C. carmenae* A.G. Smith & Ferreira, 1977. Lectotype figured. Length: 8.7 mm. Distribution: Islas Galápagos, Ecuador; Chile. Known only intertidally (Ferreira, 1979a). Lectotype and radular tooth figured. Northernmost record Islay, Chile (17°03'S) (Kaas & Van Belle, 1994). [Since the type locality for *Callistochiton carmenae* is the Islas Galápagos, the distribution for *C. pulchellus* must include the Islas Galápagos].

- *Callistochiton pulchrior* Pilsbry, 1893, ex Carpenter MS. Synonyms: *Chiton pulchellus* C. B. Adams auctt., non Gray, 1828; *Callistochiton periconis* Dall, 1908; *C. flavidus* Thiele, 1909; *C. fisheri* Dall, 1919. Lectotype figured. Length: 14.5 mm. Distribution: San Juan del Sur, Nicaragua, to Punta Cruces, Colombia. Depth: intertidal zone to 55 m (Kaas & Van Belle, 1994).

Genus *Callistoplax*

Dall, 1882, ex Carpenter MS

Callistoplax as a subgenus of *Callistochiton* (Van Belle, 1983) and as a genus (Kaas & Van Belle, 1994).

43. *Callistoplax retusa* (Sowerby in Broderip & Sowerby, 1832). Radular tooth figured. Distribution: Islas Tres Marias, México, to Panamá

(Kaas & Van Belle, 1994). Include the Islas Galápagos in distribution (Kaiser, 1997).

Genus *Ceratozona* Dall, 1882

46. *Ceratozona angusta* Thiele, 1909. Synonym: *Chiton setosus* Sowerby in Broderip & Sowerby, 1832, non Tilesius, 1824, non Wood, 1828. Paralectotype figured. Length to 32.5 mm. Distribution: Poreloya, Nicaragua, to Islas Tortugas, Costa Rica. Depth: on tops of exposed rocks to 1 m (Kaas & Van Belle, 1994).

- *Ceratozona squalida* (C. B. Adams, 1845). Synonyms: *Chiton setosus* Wood, 1828, non Tilesius, 1824; *C. setosus* Sowerby in Broderip & Sowerby, 1832, non Tilesius, 1824; *C. rugosus* Sowerby, 1840, non Gray, 1826; *C. guildingii* Reeve, 1847; "*C. bicolor*, Adams" Gray, 1847; *Ceratozona angusta* Thiele, 1909. Distribution: Nicaragua to Costa Rica; Florida to Barbados, West Indies. Depth: 0 to 1 m (Ferreira, 1985b). Delete. Distribution confined to the Caribbean (Kaas & Van Belle, 1994).

Genus *Calloplax* Thiele, 1909

Calloplax moved to family Callistoplacidae by Ferreira (1978c). *Calloplax* returned to family Chaetopleuridae (Ferreira, 1982a). *Calloplax* as a subgenus of *Callistochiton* in the subfamily Callistoplacinae by Van Belle (1983). *Calloplax* as a synonym of *Chaetopleura* by Lyons (1985). As a valid genus (Kaas & Van Belle, 1994; Van Belle, 1999).

27. *Calloplax duncana* (Dall, 1919). Genus changed. Holotype figured. Length: 13 mm (Smith & Ferreira, 1977). Radular tooth figured. Length: 13.5 mm. Intertidal species endemic to the Islas Galápagos (Kaas & Van Belle, 1994).

- *Calloplax hanselmani* Ferreira, 1982. Delete here. Genus changed. See *Chaetopleura*.

Subfamily CHAETOPLEURINAE

Plate, 1899

Genus *Chaetopleura* Shuttleworth, 1853.

Subgenus *Chaetopleura* s. s.

- *Chaetopleura* (C.) *hanselmani* (Ferreira, 1982). Synonym: *Chaetopleura* cf. *mixta* (Dall, 1919).

- Length: 9 mm. Distribution: Mazatlán, Sinaloa, México, to Perú, and including the Islas Galápagos, Ecuador. Depth: intertidal to 17 m. Described as genus *Calloplax* and returned to the Chaetopleuridae (Ferreira, 1982a). *Calloplax* as a subgenus of *Callistochiton* (Van Belle, 1983). *Calloplax* as a synonym of genus *Chaetopleura* (Lyons, 1985). As genus *Chaetopleura*. Add subgenus. Synonym: *Chaetopleura* cf. *C. mixta* Smith & Ferreira, 1977, non Dall, 1919 (Kaas & Van Belle, 1987). Holotype figured (Slieker, 2000).
41. *Chaetopleura* (*C.*) *lurida* (Sowerby in Broderip & Sowerby, 1832). A valid species. Synonyms: *Chiton scabriculus* Sowerby in Broderip & Sowerby, 1832; *C. columbiensis* Sowerby in Broderip & Sowerby, 1832; ?*C. dieffenbachii* Reeve, 1847; *Lepidopleurus bullatus* Carpenter, 1857; *L. bullatus* var. *calciferus* Carpenter, 1857; *Ischnochiton parallelus* Carpenter, 1864; *I. var. prasinatus* Carpenter, 1864; *Choetopleura* [sic.] *dacrydigera* de Rochebrune, 1882; *Chiton sowerbyanus* Clessin, 1904. Distribution: Bahía San Francisquito, Baja California, México, to Isla de Gorgona, Colombia. Depth: intertidal to 30 m (Kaas & Van Belle, 1987). Include the Islas Revillagigedo, México, in distribution (Emerson, 1995).
- *Chaetopleura* (*C.*) *peruviana* (Lamarck, 1819). Synonyms: *Chiton hirsutus* Deshayes, 1827; *Chaetopleura peruviana* var. *australis* Plate, 1899. Length to 50 mm. Distribution: Cabo San Lorenzo, Ecuador, south to the Chonos Archipelago, Chile. Depth: intertidal to 40 m (Kaas & Van Belle, 1987). Spicules and hairs diagrammed (Leise, 1988).
39. *Chaetopleura* (*C.*) *roddai* Ferreira, 1983. Length to 33 mm. Distribution: Fort Kobbe, Panamá, to Bocapán, Tumbes Province, Perú. Depth: intertidal to 90 m (Ferreira, 1983a). Add subgenus. Correct spelling from *roddae* (Kaas & Van Belle, 1987).
- *Chaetopleura* (*C.*) *scabricula* (Sowerby in Broderip & Sowerby, 1832). As a valid species. Lectotype designated and figured. Synonyms: *Chiton luridus* Sowerby in Broderip & Sowerby, 1832 (*nom. dub.*); *C. columbiensis* Sowerby in Broderip & Sowerby, 1832 (*nom. dub.*); *Lepidopleurus bullatus* Carpenter, 1857 (*nom. nud.*); *L. bullatus calciferus* Carpenter, 1857 (*nom. nud.*); *Ischnochiton parallelus* Carpenter, 1864; *I. prasinatus* Carpenter, 1864; *Choetopleura* [sic.] *dacrydigera* de Rochebrune, 1882; *Chiton catenulatus* auctt., Thorpe in Keen, non Sowerby in Broderip & Sowerby, 1832; *C. jaspideus* auctt., Thorpe in Keen, non Gould, 1846. Distribution: central part of the Golfo de California, México, to Isla de Gorgona, Colombia. Depth: confined to the intertidal and shallow subtidal zones (Ferreira, 1983a). Include the Islas Revillagigedo, México, in distribution (Ferreira, 1983b). Delete here. As a synonym. See *Chaetopleura lurida* (Sowerby in Broderip & Sowerby, 1832) [41].
- *Chaetopleura* (*C.*) *shyana* Ferreira, 1983. Length: 27 mm. Distribution: Isla Pata, Bahía de los Angeles, Baja California; Isla Turner, south of Isla Tiburón, and Isla Partida, Golfo de California, México. Intertidal to shallow subtidal zone (Ferreira, 1983a). Add subgenus (Kaas & Van Belle, 1987).
42. *Chaetopleura* (*C.*) *unilineata* Leloup, 1954. Synonym: *Chaetopleura mixta* auctt., non Dall, 1919, including Thorpe in Keen, 1971 [42]. Length to 32 mm. Distribution: the head of the Golfo de California, México, to northern Perú. Depth: intertidal to 90 m (Ferreira, 1983a). Add subgenus (Kaas & Van Belle, 1987).
- Subgenus *Pallochiton* Dall, 1879
40. *Chaetopleura* (*P.*) *euryplax* Berry, 1945. Subgenus added (Kaas & Van Belle, 1987) Delete here. As a synonym. See *Chaetopleura* (*P.*) *lanuginosa mixta* Dall, 1919.
- *Chaetopleura* (*P.*) *lanuginosa* Dall, 1879, ex Carpenter MS. Lectotype designated and figured. Synonyms: *Arthuria filosa* Dall, 1882, ex Carpenter MS (*nom. nud.*); *Pallochiton* (*Arthuria*) *filosus* Pilsbry, 1893, ex Carpenter MS (lectotype designated and figured); *Nuttallina magdalena* Dall, 1919; *Tonicia mixta* Dall, 1919 [pars], non *Chaetopleura mixta* (Dall) of authors treating Panamic species; *Chaetopleura raripustulosa* Pilsbry in Pilsbry & Lowe, 1932 (*nom. nud.*); *C. (Pallochiton) euryplax* Berry, 1945 (paratype figured) [40]. Length to 60 mm. Distribution: Pacific side of Baja California from Ensenada to Bahía Magdalena; San Felipe to Bahía Concepción on the western side of the Golfo of California; Bahía de Adair to Topolobampo, Sinaloa, on the mainland of México. Mostly intertidal but extends to 91 m (Ferreira, 1983a). Subgenus added. Length to 40 mm. Delete as synonyms: *Tonicia mixta* Dall, 1919; *Chaetopleura raripustulosa* Pilsbry in Pilsbry

& Lowe, 1932; *C. (Pallochiton) euryplax* Berry, 1945 [40]. Limit distribution to the Pacific side of Baja California from Bahía Todos Santos, Baja California, to Bahía Magdalena, Baja California Sur, México (Kaas & Van Belle, 1987).

- *Chaetopleura (P.) lanuginosa mixta* (Dall, 1919). Synonyms: *Tonicia mixta* Dall, 1919; *Chaetopleura raripustulosa* Pilsbry in Pilsbry & Lowe, 1932 (*nom. nud.*); *C. (Pallochiton) euryplax* Berry, 1945 [40]. Distribution: the upper Golfo de California, south to Bahía Concepción on the Baja California side, and south to Bahía Topolobampo, Sinaloa, on the Mexican mainland (Kaas & Van Belle, 1987).

Subfamily **LEPIDOCHITONINAE**
Iredale, 1914

Genus *Lepidochitona* Gray, 1821

Subgenus *Lepidochitona* s.s.

Synonym: *Mopaliella* Thiele, 1909 (Van Belle, 1999).

44. *Lepidochitona (L.) beanii* (Carpenter, 1857). Add synonyms: *Chiton bipunctatus* Sowerby in Broderip & Sowerby, 1832 (lectotype figured); ?*Chiton virescens* Reeve, 1847; *Tonicella (Mopaliella) stigmata* Dall, 1909. Length: 14.2 mm. Radular tooth figured. Extend distribution south to Perú. Depth: 0 to 230 m (Ferreira, 1982b). Include the Caribbean in distribution (Ferreira, 1985b). Radular tooth figured. Delete the Caribbean from distribution (Kaas & Van Belle, 1985b).

- *Lepidochitona (L.) berryana* Eernisse, 1986. Length: 21.5 mm. Distribution: San Mateo to Los Angeles Counties, California (Eernisse, 1986). Egg figured (Eernisse, 1988). Extend distribution to Bahía Guasimas, south of Guaymas, Sonora, México (Clark, 1991).

- *Lepidochitona (L.) corteziana* Clark, 2000. Girdle figured. Length: 3.5 mm. Distribution: Punta Chivato south to Canal de San Lorenzo, Baja California Sur, México (Clark, 2000).

- *Lepidochitona (L.) hartwegii* (Carpenter, 1855). Lectotype and paralectotypes designated. Synonym: *Chiton nuttalli* Carpenter, 1855. Radular tooth figured. Distribution: Sausalito, California, to Punta Abreojos, Baja California Sur, México (Ferreira, 1982b). Extend distribution north to Port Orford, Oregon (Eernisse, 1986). Egg and trochophore larva figured (Eernisse, 1988). SEM of radula figured

(Eernisse & Reynolds, 1994). Extend distribution south to Rocas Alijos, México. Intertidal depth (McLean & Coan, 1996).

- *Lepidochitona (L.) keepiana* Berry, 1948. Synonyms: *Lepidochitona dentiens* Berry *auctt.*, *non* Gould, 1846; *Ischnochiton (Trachydermon) dentiens* Pilsbry *auctt.*, *non* Gould, 1846. Length to 16 mm. Distribution: Monterey, California, to Rancho Socorro, Baja California, and Isla Socorro, Islas Revillagigedo, México. Depth: intertidal to 10 m (Ferreira, 1983b). Holotype figured (C. Hertz, 1984). Radular teeth figured (Kaas & Van Belle, 1985b).

Subgenus *Dendrochiton* Berry, 1911
As a subgenus (Van Belle, 1983; 1999).

48. *Lepidochitona (D.) lirulata* (Berry, 1963). Add synonym: *Dendrochiton laurae* Berry, 1963 [47]. Holotype figured. Distribution: San Felipe, to Bahía de los Angeles, Baja California, and Bahía la Cholla to Guaymas, Sonora, México. Depth: intertidal zone (Ferreira, 1982b). Holotype figured (C. Hertz, 1984). Radular tooth figured (Kaas & Van Belle, 1985b).

Genus *Dendrochiton* Berry, 1911
Delete here. As a subgenus of *Lepidochitona* by Van Belle, 1999.

47. *Dendrochiton laurae* Berry, 1963. Holotype figured (C. Hertz, 1984). Delete here. As a synonym. See *Lepidochitona (D.) lirulata* (Berry, 1963) [48].

48. *Dendrochiton lirulatus* Berry, 1963. Delete here. Genus changed. See *Lepidochitona*.

Genus *Mopaliella* Thiele, 1909
Delete here. As a synonym. See *Lepidochitona*.

44. *Mopaliella beani* (Carpenter, 1857). Delete here. Genus changed. See *Lepidochitona*.

Genus *Nuttallina* Dall, 1871,
ex Carpenter MS

- *Nuttallina californica* (Reeve, 1847, *ex* Nuttall MS). Lectotype designated. Synonyms: *Chiton scaber* Reeve, 1847, *non* de Blainville, 1825; *Acanthopleura scabra* Carpenter *auctt.*, *non* Reeve,

1847; *A. fluxa* Carpenter, 1864. Length to 53 mm. Distribution: Sonoma County, California, to Bahía Magdalena, Baja California Sur, México. Depth: upper and middle intertidal zone (Ferreira, 1982b). Delete *Acanthopleura scabra* Carpenter auctt., non Reeve, 1847, as a synonym. Radular tooth figured (Kaas & Van Belle, 1985b). Kidney basal cell membrane and SEM of radula figured (Eernisse & Reynolds, 1994).

45. *Nuttallina crossata* Berry, 1956. Add synonym: *Nuttallina mexicana* Pilsbry in Pilsbry & Lowe, 1932 (*nom. nud.*). Extend distribution south to Puerto Ballandra, Baja California Sur, México (Ferreira, 1982b). Holotype figured (C. Hertz, 1984). Radular tooth figured (Kaas & Van Belle, 1985b).

Family **MOPALIIDAE** Dall, 1889
Subfamily **MOPALIINAE** Dall, 1889

Genus *Mopalia* Gray, 1847

- *Mopalia lignosa* (Gould, 1846). Radular morphogenesis figured and discussed (Eernisse & Kerth, 1988). Synonyms: *Chiton eschscholtzii* von Middendorff, 1847; *C. merckii* von Middendorff, 1847; *Mopalia simpsonii* Gray, 1847 (*nom. nud.*); *Chiton montereyensis* Carpenter, 1855; *C. lignarius* Carpenter, 1857, ex Gould MS (*nom. nud.*); *Mopalia insignis* Pilsbry, 1893, ex Newcomb MS; *M. muscosa lignosa* form *elevata* Pilsbry, 1893. Length: 80 mm. Distribution: Sitka, Alaska, to Bahía Magdalena, Baja California Sur, México. Depth: intertidal zone (Kaas & Van Belle, 1994).
- *Mopalia mucosa* (Gould, 1846). Radular morphogenesis figured and discussed (Eernisse & Kerth, 1988). Synonyms: *Chiton armatus* Jay, 1839, ex Nuttall MS (*nom. nud.*); *C. setosus* Sowerby, 1839, non Sowerby, 1932; *C. ciliatus* Reeve auctt., non Sowerby, 1840; *C. colliei* Reeve, 1847 ex Gray MS; *C. ornatus* Carpenter, 1855, ex Nuttall MS; *Mopalia consimilis* Carpenter, 1864, ex Nuttall MS (*nom. nud.*); *Chiton arenatus* Pilsbry, 1893, ex Nuttall MS (*nom. nud.*). Distribution: Alaska to Rosarito, Baja California, México. Intertidal zone (Kaas & Van Belle, 1994). Extend distribution south to Isla Socorro, Islas Revillagigedo, México (Mille-Pagaza, Pérez-Chi & Holguín-Quñones, 1994). SEM of transverse section of integument and base of hair figured (Leise, 1988).

Genus *Placiphorella* Dall, 1879,
ex Carpenter MS

- *Placiphorella atlantica* (Verrill & S. I. Smith, 1882). Synonyms: *Chiton coronatus* Locard, 1898, ex Fischer MS; *Placiphorella pacifica* Berry, 1919 (lectotype figured); *P. uschakovi* Yakovleva, 1952 (paratype figured); *P. albitestae* Taki, 1954; *P. stimpsoni* Wu & Okutani auctt., non Gould, 1859. Holotype and radula figured. Length to 36 mm. Distribution: cosmopolitan, bathyal-abyssal, including a single record without depth from off Guaymas, Sonora, México. Depth: 155 to 1665 m (Clark, 1994). Delete *Placiphorella albitestae* Taki, 1954, as a synonym (Saito & Tsuchida, 1998).
49. *Placiphorella blainvillii* (Broderip in Broderip & Sowerby, 1832). Extend distribution north to Isla del Coco, Costa Rica, and depth to 120 m. Presence in deep water off the Islas Galápagos not confirmed since first published (Smith & Ferreira, 1977). Lectotype designated. Paralectotype and radula figured (Clark, 1994).
- *Placiphorella hanselmani* Clark, 1994. Synonym: *Placiphorella velata* Dall, 1879, non Carpenter MS (pars). Radula figured. Length: 36 mm. Distribution: Bahía de los Angeles, Baja California; Bahía la Cholla, Puerto Lobos and Puerto Libertad, Sonora, México. Depth: 0 to 5 m (Clark, 1994). "Placiphorella species 2 Clark MS, 1994" is this species (Kaas & Van Belle, 1994).
- *Placiphorella pacifica* Berry, 1919. Synonym: *Placiphorella uschakovi* Yakovleva, 1952. Length to 33 mm. Distribution: Okhotsk Sea, Pacific Northwest; off Guaymas, Sonora, México. Depth: 366 to 878 m (Smith, 1974). Synonym: *Placiphorella albitestae* Taki, 1954. Add to range: Japan; eastern Indian Ocean; off Erruzuaia, Antofagasta Province, Chile (Clark, 1991). Delete here. As a synonym. See *Placiphorella atlantica* (Verrill & S. I. Smith, 1882).
50. *Placiphorella velata* Dall, 1879, ex Carpenter MS. Distribution restricted from Alaska to Bahía Todos Santos, Baja California, México, which is north of the Panamic Province (Clark, 1991). Lectotype and radula figured. Length: 60 mm. Distribution: south central Alaska to the north end of Bahía Magdalena, Baja California Sur, México (Clark, 1994). SEM of dorsal hairs figured (Leise, 1988).

Family **CHITONIDAE** Rafinesque, 1815

Subfamily **CHITONINAE**

Rafinesque, 1815

Genus *Chiton* Linnaeus, 1758

Synonyms: *Amaurochiton*, *Chondroplax* and *Diochiton*, all of Thiele, 1893 (Van Belle, 1999).

Subgenus *Chiton* s. s.

2. *Chiton* (*C.*) *albolineatus* Broderip & Sowerby, 1829. As subgenus Thiele, 1983. Distribution: Mazatlán, Sinaloa, to southern México. Records from Guaymas, Sonora, México, and Guatemala are doubtful (Bullock, 1988). SEM of esthete organs figured (Eernisse & Reynolds, 1994). As *Chiton* (*Chiton*) by Van Belle (1999).
3. *Chiton* (*C.*) *articulatus* Sowerby in Broderip & Sowerby, 1832. As synonym *Chiton laevigatus* Sowerby, 1832, *non* Fleming, 1813. Include Isla Socorro, Islas Revillagigedo, México, in distribution (Villalobos, 1960). As *Chiton articulatus*. Length to 108 mm. Distribution: Mazatlán, Sinaloa, to Puerto Angel, Oaxaca, and the Islas Revillagigedo, México (Ferreira, 1983b). Include Isla Clarión, Islas Revillagigedo, México, in distribution (González-Nakagawa & Sanchez Nava, 1986). As subgenus *Diochiton* Thiele, 1893. Synonym: *Chiton similis* ex Gray MS. Add Puerto Guatulco, Oaxaca, México, to distribution (Bullock, 1988). As *Chiton* (*Chiton*) by Van Belle (1999).
- *Chiton* (*C.*) *cummingsii* Fremby, 1827. Distribution: Paíta, Perú, to Puerto Montt, Chile (Marincovich, 1973). Distribution to Paíta, Perú, confirmed (Alamo & Valdivieso, 1987). As subgenus *Amaurochiton* Thiele, 1893. Length: 45 mm. Distribution: Tumbes, Perú, to Calbuco, Chile. Depth: intertidal zone (Bullock, 1988). As subgenus *Chiton* by Van Belle (1999).
4. *Chiton* (*C.*) *goodallii* Broderip in Broderip & Sowerby, 1832. Add synonym: *Chiton* (*Radsia*) *chierchiae* Nierstrasz, 1906. Length to 123 mm. Depth: intertidal zone (Smith & Ferreira, 1977). Previous reports of *Chiton goodallii* at Isla del Coco, Costa Rica, very likely represent misidentifications of *Chiton stokesii* (Ferreira, 1987). Holotype figured. As subgenus *Diochiton* Thiele, 1893 (Bullock, 1988). As *Chiton* (*Chiton*) by Van Belle (1999).
- *Chiton* (*C.*) *granosus* Fremby, 1827. Distribution: Paíta, Perú, to 42°S in southern Chile (Marincovich, 1973). Paíta, Perú, distribution confirmed (Alamo &

Valdivieso, 1987). As subgenus *Chondroplax*. Synonym: *Gymnoplax ludoviciae* de Rochebrune, 1884. Length to 75 mm. Distribution: Tumbes, Perú, to Isla de Chiloe, Chile, intertidal zone (Bullock, 1988). As subgenus *Chiton* by Van Belle (1999).

5. *Chiton* (*C.*) *stokesii* Broderip in Broderip & Sowerby, 1832. Add synonyms: *Chiton interruptus* Pilsbry, 1893, *ex* Carpenter MS (*nom. nud.*); *C. stokesi* [sic] *broderipi* Clessin, 1903 (holotype figured); *C. latus* Boone *auctt.*, *non* Sowerby, 1825 (Kaas & Van Belle, 1980). Add Isla del Coco, Costa Rica, to distribution (Ferreira, 1987). Syntype figured. Delete México from distribution. Distribution: Guatemala to Ecuador, including Isla del Coco, Costa Rica, and the Islas Galápagos, Ecuador (Bullock, 1988).
6. *Chiton* (*C.*) *sulcatus* Wood, 1815. As subgenus *Radsia* by Smith & Ferreira, 1977. Add synonym: *Chiton woodii* Clessin, 1903 (Kaas & Van Belle, 1980). As subgenus *Chiton*. Distribution: Islas Galápagos. Depth: intertidal zone (Bullock, 1988).
7. *Chiton* (*C.*) *virgulatus* Sowerby, 1840. Add synonym ?*Chiton* (*Radsia*) *caerulescens* Shuttleworth, 1853 (*nom. nud.*) (Kaas & Van Belle, 1980). Add subgenus. Add Bahía Magdalena, Baja California Sur, México, to distribution. Bahía Kino, Sonora, México, designated as the type locality (Bullock, 1988).

Subgenus *Amaurochiton* Thiele, 1893Delete here. As a synonym. See *Chiton* (*Chiton*).Subgenus *Diochiton* Thiele, 1893Delete here. As a synonym. See *Chiton* (*Chiton*).Subgenus *Chondroplax* Thiele, 1893Delete here. As a synonym. See *Chiton* (*Chiton*).Subfamily **ACANTHOPLEURINAE**

Dall, 1889

Genus *Acanthopleura* Guilding, 1829

- *Acanthopleura echinatus* (Barnes, 1823). Synonym: *Chiton spiniferus* Fremby, 1827. Distribution: Paíta, Perú, to San Vicente, Chile (Marincovich, 1973). Paíta distribution confirmed (Alamo & Valdivieso, 1987).

Subfamily **TONICHIINAE** Pilsbry, 1893Genus *Tonicia* Gray, 1847

8. *Tonicia arnhemii* Dall, 1903. As a subspecies of *Tonicia forbesii* Carpenter, 1857, confined to the Islas Galápagos. Depth: low intertidal to deeper water. Figured (Smith & Ferreira, 1977). As a valid species (Eernisse, 1993).

Suborder **ACANTHOCHITONINA**

Bergenhayn, 1930

Family **ACANTHOCHITONIDAE**Subfamily **ACANTHOCHITONINAE**

Pilsbry, 1893

Genus *Acanthochitona* Gray, 1821

Synonym: *Americhiton* Watters, 1990 (Van Belle, 1999).

- *Acanthochitona angelica* Dall, 1919. Holotype figured. Synonyms: *Acanthochitona jacquelineae* A.G. Smith & Ferreira, 1977 (paratype figured); *A. shaskyi* Ferreira, 1987. Distribution: Bahía de los Angeles, Baja California, and Islas Tres Mariás, México; the Islas Galápagos, Ecuador. Depth: 40 to 50 m (Watters, 1981). *A. shaskyi* is a valid species. Delete as a synonym (Eernisse, 1993). [Deletion of *A. shaskyi* as a synonym would also delete Isla del Coco, Costa Rica, from distribution of *A. angelica*]. Include off Playas del Coco, Guanacaste, Costa Rica, dredged 9 to 18 m, and off Isla Ranchería, Golfo de Chiriquí, Panamá, in distribution (Skoglund, 1997b).
10. *Acanthochitona arragonites* (Carpenter, 1857). Extend distribution to Salinas, Ecuador. *Acanthochitona andersoni* Watters, 1981, is a cognate species from the western Atlantic (Watters, 1981). As genus *Americhiton* Watters, 1990. Lectotype figured. Length: 12 mm. Extend distribution south to Salinas, Ecuador. Depth: intertidal zone to 20 m (Watters, 1990). As *Acanthochitona* by Van Belle (1999).
11. *Acanthochitona avicula* (Carpenter, 1864). As a possible new species from the Islas Galápagos, Ecuador, reported as "*Acanthochitona cf. avicula* (Carpenter, 1866)" (Smith & Ferreira, 1977). Delete ?*Acanthochitona angelica* Dall, 1919, as a synonym. Lectotype designated for *Acanthochitona avicula* var. *diegoensis* (Pilsbry, 1893). Delete "*cf. avicula*" (Smith & Ferreira, 1977) (Watters, 1981). Extend distribution south to Punta Mita, Nayarit, México. Depth: 8 to 20 m (Skoglund, 1997b).
- *Acanthochitona burhardtae* Clark, 2000. Girdle scales figured. Length: 3.5 mm. Distribution: Isla San Jose south to Canal de San Lorenzo, Baja California Sur, Mexico (Clark, 2000).
12. *Acanthochitona exquisita* (Pilsbry, 1893). Lectotype designated and figured. Synonym: *Acanthochitona exquisita* var. *ampullaceus* Pilsbry, 1893 (lectotype designated and figured). Length: 47 mm. Extend range south to Panamá (Watters, 1990).
- *Acanthochitona ferreirai* Lyons, 1988. Synonym: *Acanthochitona rhodea* Thorpe in Keen auctt., non (Pilsbry, 1893) [pars] [14]. Length: 28.2 mm. Distribution: Costa Rica and Panamá, intertidal and subtidal (Lyons, 1988). Holotype figured. Extend range north to Guaymas, Sonora, México (Watters, 1990). Paratype figured (Sliker, 2000).
13. *Acanthochitona hirudiniformis hirudiniformis* (Sowerby in Broderip & Sowerby, 1832). Add Islas Galápagos, Ecuador, to distribution (Smith & Ferreira, 1977). Add synonym: *Acanthochitona panamensis* Pilsbry, 1932 (Kaas & Van Belle, 1980). As subspecies *A. hirudiniformis hirudiniformis* (Sowerby in Broderip & Sowerby, 1832). Synonyms: *Chiton (Radsia) stokesii* Biolley, 1907, non Broderip in Broderip & Sowerby, 1932; *Acanthochitona panamensis* Pilsbry in Pilsbry & Lowe, 1932 (*nom nud.*); *A. coquimboensis* Leloup, 1941; *A. tabogensis* A. G. Smith, 1961 (holotype figured). Delete *Acanthochitona peruvianus* Leloup, 1941, as a synonym. Distribution: the Golfo de California, México, to Perú and including the Islas Galápagos, Ecuador. Depth: intertidal zone to 2 m. *Acanthochitona hirudiniformis peruviana* (Leloup, 1941) becomes a subspecies occurring south of the Panamic Province (Watters, 1990).
- *Acanthochitona imperatrix* Watters, 1981. Synonyms: *Acanthochitona* sp. ? A.G. Smith & Ferreira, 1977; *A. galapagana* Pilsbry MS (*nom nud.*). Length: 8.9 mm. Distribution: off San Diego, California; off La Paz, Baja California Sur, México; Isla Santa Cruz, Islas Galápagos, Ecuador. Depth: subtidal zone to 17.4 m (Watters, 1981). Holotype and paratype figured (Watters, 1990). Add San Vicente, Bahía Caráquez, Ecuador, to distribution, and intertidal zone to depth (Skoglund,

1997b).

---- *Acanthochitona jacquelinae* A.G. Smith & Ferreira, 1977. Length: 10 mm. Distribution: Isla Santa Cruz, Islas Galápagos, Ecuador. Depth: 40 to 50 m (Smith & Ferreira, 1977). Delete here. As a synonym. See *A. angelica* Dall, 1919.

14. *Acanthochitona rhodea* (Pilsbry, 1893). As a synonym of *Acanthochitona hemphilli* (Pilsbry, 1893) (Watters, 1981). Add synonym: *Acanthochites (Notoplax) hemphilli* Pilsbry, 1893. Extend distribution north to Guaymas, Sonora, México, and the Caribbean (Ferreira, 1985b).

Delete. Not Panamic. Distribution: the Caribbean coasts of Costa Rica, Panamá, and Colombia (Lyons, 1988).

---- *Acanthochitona shaskyi* Ferreira, 1987. Length: 6 mm. Bahía Chatham, Isla del Coco, Costa Rica. Depth: 46 to 69 m. Known only from the type lot (Ferreira, 1987). As a synonym of *Acanthochitona angelica* Dall, 1919 (Watters, 1990). As a valid species (Eernisse, 1993).

Genus *Americhiton* Watters, 1990

Delete here. As a synonym. See *Acanthochitona*.

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